THE ANTIQUE RADIO GAZETTE

Cover Story, Page 32

This issue is a tribute to Ross Smith and his long-standing series, Transistor Topics.

20th Anniversary Year

ARCA

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The Winter Edition

The winter issue features "Celebrating the 40th Anniversary of Television in Hawaii." Another fabulous report from the Hawaii Chapter of ARCA.

Many color photos and a story with pictures on the "Koa" crystal set.

Radio '92 in Review - A Dream World of Collecting.

Transistor Topics by Ross Smith

President's Page

by Lloyd E. McIntyre

I think it can be said, without debate, radio collecting has become an American pastime. One only has to look at the success of so many meets around the country this summer to realize this.

Monthly meetings of the MAARC approach 150 in attendance. ARCI (see report this issue) may have just completed the largest meet ever held in the country with *Radiofest '92.*

I have just received a report from AWA that the flea market was sold out with no idea as to what to do with additional vendors. ARC lists as many as four or five different meets on any given weekend. We hope all have enjoyed this feast of radio gatherings, and it would appear it will continue into the winter months.

What does it all mean to you and I, the collector? A recent two-day trip through Ohio to two large flea markets resulted in the purchase of a small slide rule. Oh, I thought I would fill the gaps while looking for radios, only to find out everyone else is filling the gaps in their collecting habits with the same thing. Anyway, there are no sacred cows out there, and the few radios I saw, some plastic junkers, had $40 and $50 price tags, yielded zero.

We have talked about this a little before. The conclusion I have is there are a lot of nice radios showing up at all of these meets and collectors are being rewarded for the time and effort to travel to these events.

As you read this, we will have completed another record event in Rochester, New York. The radio has been such an important part of the American scene for so long, and continues to be today, that it is surprising more sincere efforts to collect have not be-come a way of life much sooner. The *Baby Boomer* generation, as Howard W. Sams has aptly named his new book series, has contributed to the collector craze in all areas like no other time in history. So, if you are going to collect something, anything that may be of interest to you—get started! I wager a bet there are thumbtack and paper clip collectors stashing these very rare items away.

I want to apologize for the late arrival of the last issue. Your president is, I think you would say, burning the candle at both ends—or at least the other end is melting a bit. We wanted to bring you as much as we could in the last issue. The material kept coming in and then we changed the appearance in the layout artwork. We had so many great color pictures that we had to minimize some of those and postpone their appearance until this issue. Still, there will be many that we just will not be able to use.

I want to welcome Bill Dawson of Washington, Pennsylvania, as our new Secretary. Bill comes to us with vast experience in radio club work and as a collector. We are fortunate to have people such as Bill to step forward and serve this all-volunteer organization.

We look forward to our '92 in review with the winter issue. Meanwhile, *buckle-up*—we do not want a valuable *Blue Mirror Spartan* going through the windshield because of an unscheduled accident. ■

ARCA-PARS Convention

All I Know Is What I Read In These Books

John W. Weyer at Pittsburgh, Pa., June 1992

Now, for a few things about Dr. Edward Weston and his achievements. First, I wish to thank John Haught for his invitation. The three retired Weston Engineers, Phil Cobb, Vahe Arifian, Charles Mulhem and Morton Snowhite, Librarian at NJIT. Frances Weston Hoyt, Franz Monssen, formerly of NJIT. James Grand and the many other Weston Memorabilia collectors for their kind help in this quest. Also, the Radio Club flea markets that sold me most of my collection. But, I would be remiss if I didn't acknowledge the great help of my wife, Vera. December 6, 1941, we were married in the Little Brown Church in the Vale.

Edward Weston came to New York in 1879 at 20 years of age. In the next 16 years, he became expert in electroplating, dynamos, carbon arc lighting, incandescent lamps and electrical measuring. In 1888, he turned his full attention to the electrical measuring field. He studied in-depth the swigger multiplier, the tangent galvometer and, while testing a large unit, it was found that every time one of his assistants came into the room, the needle reacted. After removing his metal objects, it still disturbed the needle. They were all stumped until they discovered that his derby had a wire in its rim. Dr. Weston then studied the D'Arsonval idea with a suspended moving coil and a permanent magnet.

He found it to be cumbersome and inaccurate. He decided to improve the idea. Dissatisfaction, not necessity, was his mother of invention. He was a mechanical expert; he knew how to do things well. His improvements were the jeweled pivots, the hair spring, hollow aluminum alloy pointer, the aluminum bobbin to dampen the swing, and the truly permanent magnet. Now, all that was needed was precision manufacturing.

As a famous cowboy used to say:

"All I know is what I read in the papers."

In the next 12 years, Weston Company produced 40 models. By 1919 the number had grown to 400 models and in another 10 years, in 1929, they were manufacturing over 800 different models. The development of the Manganin alloy shunts allowed the ammeters to be mounted on remote panels. The iron case on the Model 45 and others allowed them to be used where stray magnetic fields existed. Of course, we don't want to overlook the normal and standard cells that became the world's standard in 1911. Weston waived his patent rights to the world.

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ARCA-PARS CONVENTION

(Continued from page 3)

As AC became more popular, Weston came out with the Model 155—movable iron type, and the 330 iron core dynamometer type of AC voltmeters, ammeters and others. Dr. Weston was a charter member of A.I.E.E. in 1884 and in 1888 he was its president.

The Weston Company was the first to be licensed to mold Dr. Bakelin's new compound, Baekelund, in 1910. Weston was awarded the Edison Medal of Excellence, which he refused, his comment being that he got his medal each time he made a switchboard meter for the General Electric Company.

Dr. Weston took out United States Citizenship papers in 1923. Dr. Edward Weston remained president until 1924. He then turned it over to his son, Edward Farady Weston, who led the company into the 1950s.

Several instruments for radio were already in production in 1924, such as the famous Model 301 and the 506 for radio panel A battery voltage control, the Model 425 thermocouple type ammeter for measuring high-frequency currents, and the development of the cuprous oxide rectifier; the cuprous oxide was developed by Weston many years before as a finish used on many Model 1s. This rectifier allowed the low drain DC meters to be used on AC voltage. From it, the AC-DC multimeter was possible. Mr. E. F., as his employees called him, with his brilliant engineers and employees led the company into the 1950s. They developed the sensitive light cell coupled to a sensitive miliamp meter, which became the first direct reading photographic light meter. They produced 100 models. In the 20s, they made many radio test instruments and the DC 301 and 506 were used by other companies. Also, the 476 and 517—the popular AC meters.

My newest Westons are 1930's No. 785 industrial test set and the 777 tube checker, both of which I use frequently. On the 50th anniversary, the bimetallic thermometer was introduced, along with *Measuring Invisibles*. I only have a Xerox copy of it. In 1949, A *Measure for Greatness* was published. I have my autographed copy and two extra copies that I loan to friends on a 90-day time limit at no charge.

Over the years, the Weston Company was involved in many lawsuits; one that Phil Cobb told me of. When he was 16, his first job was to bring the ammeters forcibly between a hammer and an anvil. The courts ordered a New York company to retrieve all the copied ammeters and deliver them to the Weston Company.

Other companies, like Jewell, were bought out and absorbed to stop the infringement. The Tagliabue Company was bought in the mid-1940s. The Weston Company was sold to Daystrom when E. F. Weston retired. In 1980 the name was:

SANGAMO WESTON
SCHLUMBERGER

By the 100th Anniversary, only Schlumberger remained. In September

1989, the company was sold to Ametek of Sellersville, Pa., a U.S. Gauge subsidiary.

On February 9, 1990, Dr. Edward Weston was inducted into the Inventor's Hall of Fame at NJIT, an institute that he helped found. He and Dr. E. F. Weston, his son, both served on the Board of Trustees for many years. Mr. E. F. Weston was chairman the last 20 years before he retired.

Phil Cobb told of a time after Edward retired where he would come to the plant for lunch, then quietly take a tour. One time, he paused by a designer's bench. Because his eyes were weak, he leaned closer and his long tie got in the engineer's way, so he took a shears and cut it off, threw it in the wastebasket and continued to work. Dr. Weston watched for awhile, then strolled quietly on. A few days later, this same engineer forgot to remove his rubbers in the cloak room. Dr. Weston strolled by with a chew of tobacco—you know the rest of the story.

In the cherished memories of the Weston family, former employees, engineers, collectors and students of electrical progress—the Weston name will live one.

Many of our 90-year instruments that began their life at ¼-percent accuracy and now are at ½-percent attest to that.

On the completion of Charles J. Mulhern's Book of Weston Company and Family History further comprehensive information will be available.

My good friend Charles was a Weston Engineer for 31 years until retirement. He then went to England to trace his family tree. While there he also raced the Weston family history. He has a sizable collection of Weston memorabilia. ■

A Review of Dr. Edward Weston's History Prior to 1888

1850—Born in England

1866—Was an apprentice to two British medical doctors.

1870—Became a medical doctor; Came to New York.

1872—Applied his dynamo to electroplating.

1875—Received patent on nickel anode; patented laminated pole pieces of dynamo; raised the efficiency of dynamo from 45 to 85 percent; used electric arc furnace industrially.

1876—Gave public demonstration of arc lighting; used arc light for general lighting; used soft metal core for arc carbons; copper plated ends of arc carbons.

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FRANKLIN • MORSE • WESTON • EDISON • ARMSTRONG

ELECTRICAL HISTORY

Display at Midwest Old Threshers Heritage Museum Mt. Pleasant, IA

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ARCA-PARS Convention

(Continued from page 5)

1878—Used the dynamo as an electric motor for industrial purposes.

1883—Installed his carbon lights on the Brooklyn Bridge.

1884—Was charter member of AIEE.

1885—Cured weak spots in carbon incandescent lamp filaments by hydrocarbon flashing; made a successful homogeneous carbon lamp filament; made pure fiberless cellulose from nitrocellulose for lamp filaments; developed the magnetic drag speedometer.

1886—Applied the jeweled pivots and hair springs to the moving coil meter.

1887—Developed a truly permanent magnet; compounded a metal having an extremely low temperature coefficient; made an aluminum alloy that could be drawn in thin tubes; msed a metal frame to dampen coil movement.

1888—President of AIEE; formed the Weston Electric Meter Company.

A few notes about the Weston Company in this century.

1931—Purchased Jewel of Chicago.

1948—Purchased Tagliabue Company of Brooklyn, N.Y.

1954—Daystrom Corporation, a kitchen furniture manufacturer, purchased 50 percent of Weston shares and eased the Weston management out and changed the company name from Weston Electrical Instrument Company to Weston Instruments, a division of Daystrom Corporation. The company was loosing money when in 1961 Schlumberger Corporation, a worldwide petroleum exploration and drilling corporation purchased the Weston Instrument Division from Daystrom. The Schlumberger Corporation also purchased the Electric Instrument Division of Sangamo Corporation in 1962 and combined some of their operations with Weston Instruments.

1989—Schlumberger sold Weston Instrument Division to Ametek of Sellersville, Pa., a division of U.S. Gauge Company. What was once the world's greatest electrical instrument company is no more, only empty buildings remain that are also for sale. Some of us have cherished collections of early Weston Instruments and Memorabilia.

This brief review calls attention to the few publications available. Edward Faraday, Weston's daughter, Frances, told us that very little was printed about her father. He and his father were quiet family men and shunned publicity. And, some of the so-called feuds with other inventors were just not so. ■

(See photos page 27)

Will Rogers, *November 1934*

What would we do without radio at any hour of the day or night? Tune in and somebody is telling you how to live, how to vote, how to drink, how to think, when to wash your teeth, when to wash your hair, when to cut your whiskers, when to see your doctor, how to see your

doctor, when to see your priest, when to see your preacher, how to put on fat, how to take off fat.

Honest, no other nation in the world would stand for such advice as that, but we do and we like it.

The only thing that can make us give up our radio is poverty. The last thing moved out of the house when the sheriff comes in is that ole' radio. It is an invention that has knocked nobody out of work and it gives work to many people. That's something you can't say for many inventions. So, bad as it is, I don't know—it's the best invention that has ever been. ■

—1935 Will Rogers, Ambassador of Good Will, Prince of Wit and Wisdom, P. J. O'Brien

August 15, 1935 Point Barrow Alaska, Will Rogers and Wiley Post died in an airplane crash.

Pulling The Plug

Heathkits are being discontinued, but they still represent an era greater than the sum of its parts.

by Ron Grossman

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St. Joseph, Mich.—A factory here is shortly to become the Wailing Wall of a now-graying generation of nerds.

In reveries of adolescence, our thoughts will return to this resort town on Lake Michigan's shores, about 75 miles northeast of Chicago. For decades that nondescript industrial building was the home of Heathkit, which made it a fairy-tale castle to every man and boy who ever dreamed of becoming a new Thomas Edison or Guglielmo Marconi.

Women remember the heathkit phase of American history differently, given that 90 percent of the customers of the company's line of electronic gadgets in kit form have been males.

Many a wife and girlfriend spent the 1950s and '60s wondering why the man in her life preferred cuddling up with a soldering iron and a bunch of vacuum tubes to taking her out for an evening of dining and dancing. Other women spent the era hectoring husbands to finish the FM radio or television set whose half-assembled components cluttered basements and closet shelves. Their daughters will suffer none of that.

***Alas, Heathkit is no more.**

William E. Johnson, president of Heath Co., has announced that it will no longer produce its do-it-yourself product line. Once the factory's remaining stock of Heathkits is exhausted, electronic putterers and garage and workshop inventors will have to find alternative outlets for their creative juices.

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Pulling The Plug

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Actuarial tables, Johnson explained, dictated the decision to abandon the kits in favor of concentrating the Company's energies on its highly successful line of consumer electronic products. With each passing year, the Grim Reaper takes away an increasing proportion of the customer base for Heathkits, while the shifting mores of young Americans prevent the Company from finding sufficient replacements.

"Do your kids have the patience to sit down and build their own stereo set over the course of several evenings or a weekend?" Johnson asked. "Mine don't. They want to buy one at a store, so they can listen to it the very same day."

But to lots of males born before the age of instant gratification, a stereo or radio was not just a source of entertainment. In kit form, it also provided the ever sweeter music of what Johnson calls the "Eureka Complex."

It was an experience Johnson himself never tasted before coming to Heath as marketing director about 30 years ago. He didn't think of himself as particularly handy. So he was skeptical when his boss suggested that the best way to get a feel for the Company's products was to take a kit home to build.

"My neighbor laughed when he saw me sitting at the kitchen table assembling electronic parts on a circuit board," Johnson said. "But, I was so excited when I finished, I pounded on his door at midnight to come hear a transistor radio I'd made with my own two hands."

The afterglow of such a personal triumph is long lasting, Johnson added, noting that he went on to assemble 200 more Heathkits. The little curl of smoke that rises from a soldering iron as it joins resistors and condensers can induce an intoxicating habit.

So Johnson wasn't surprised by the results of a consumer survey he once commissioned. The consultant firm he hired reported: "You don't have customers. You have evangelical loyalists."

"The consultants also said they lost money working on our account," Johnson recalled. "They were used to spending about 15 minutes on each customer interview. But Heathkit fans would talk their heads off for an hour or more, pointing out the virtues of all the TV sets and weather monitors they had built over the years."

H. L. Parrish, who lives in Newland, N.C., built his first Heathkit, A $20 shortwave radio, in 1948. When he recently phoned in a $285 order for Heathkit's super-accurate electronic clock, the factory's order taker broke the news to him that this project would be his last.

"Tell you the truth, I've lost count of how many Heathkits I've built," observed Parrish, 65, an insurance premium auditor. "But for many years there, I built every new kit just as soon as they put it in their catalog."

Goldwater's Trashmasters. Johnson noted that Heathkit's partisans came from all walks of life. Former Sen. Barry Goldwater, a longtime amateur radio buff, has assembled 75 to 100 kits, Johnson reported.

"One Christmas, Sen. Goldwater

built six of our Trashmasters to give as presents," Johnson said.

Given such loyalty, Johnson dreads having to sit down this June to write his customer's a Dear John letter. In it, he will tell them they will no longer receive the catalogs through which the Company periodically announced wonders of modern electronics available by return mail in kit form.

Time was when lots of American households measured the passing seasons by the arrival of the Heathkit catalog. Spring, summer, fall and especially as Christmas drew near, the postman would deposit in their mailboxes a 100-page brochure with colorful renderings of families gathered around a big-screen projection TV or a pinball machine that Dad had built. A 1983 catalog cover showed the proud parent of a Heathkit robot diabolically grinning at the electronic slave he had just wired together.

For awkward adolescents of yesteryear, the Heathkit catalog was a kind of electronic-age equivalent of the Book of Psalms: something to be read in moments of despair and discomfort. When word of the Heathkit's demise started seeping out, a number of longtime fans called the factory to express their regrets, notes Company spokeswoman Paula Hancock. Some recalled how they used to take the catalog to high school dances.

"They explained that they would bury their noses in the Heathkit catalog," Hancock said, "because they were too shy to speak to girls."

The Heathkit's origins can be traced back to the dreams of Ed Heath, perhaps the ultimate partisan of the do-it-yourself philosophy of life. A barnstorming pilot in the early days of flying, he founded the Heath Airplane Co. in a factory on Chicago's Sedgwick Street in the 1920s. There he designed and produced a small, affordable airplane, which he christened the Parasol.

The boss crashes. "Heath sold both fully assembled planes and kits for folks to build in their garages," Johnson said. "Some customers would buy their Parasol a wing at a time, for say $100 each, until they had all the parts necessary to get their airplane up and flying."

In fact, Heath's kits were assembled by thousands of amateur aviators across the country. But in 1931, Heath died in a test flight crash. Shortly afterward the federal government enacted strict regulations governing home-brewed aircraft, which bankrupted the Company. Its surviving assets were moved to Michigan, where the Company was acquired by Howard Anthony in 1936 for a few hundred dollars. Anthony added two-way radios to Heath's airborne offerings, and the Company's fortunes improved during World War II when it got government contracts to produce airplane parts for the military.

One day shortly after the war, Anthony got a call from an electronics parts dealer who was helping to liquidate the government's surplus stocks. Sight unseen, Anthony agreed to buy three boxcar loads. Then he rushed to his banker to borrow the money he needed to consummate the deal. When the railroad cars arrived at his factory, Anthony found that among the other gadgets he now owned were 1,000 oscilloscope tubes.

A scheme is born. An oscilloscope displays the mathematical curve corresponding to a given electronic circuit, which makes it an invaluable diagnostic tool for repairmen and technicians.

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Pulling The Plug

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At the time, an oscilloscope tube sold for $50 or more. But Anthony had bought his for about 50 cents each. That allowed him to package a tube plus all the other components necessary to build an oscilloscope and sell the lot, along with a schematic diagram of how to assemble the device, for $39.50 each.

With minimal advertising, this first Heathkit was an overnight suc-cess upon its introduction in 1947. So Anthony began packaging additional sets of electronic parts that could be assembled into other testing devices and amateur radio equipment. Within three years, the company was selling $4 million worth of kits a year. In the 1970s, when the catalog included some 400 kits and accessories, sales of Heathkits topped out at about $60 million a year.

By then, the simple diagram of the early kits had been replaced by elaborate manuals that walked a Heathkit builder through the process, step by step. Those manuals also explained to novices the theory underlying the gadgets they were assembling and, eventually, Heathkit developed a line of laboratory-quality kits designed to demonstrate basic electronic principles. Widely adopted by American schools, those kits helped upgrade the teaching of science at the secondary and college level.

Heathkit also established a telephone consultation service, so that stumped constructors could share their frustrations with a technician at the factory. Heathkit's much-trumpeted motto was: "We will not let you fail."

That parlay of quality parts and shared know-how enabled even rank amateurs to construct cutting-edge electronic equipment. In the 1950s, the tinny sound of prewar phonographs gave way to sophisticated amplifiers and speakers labeled "high fidelity." Stereophonic sound was introduced, and TV moved out of the laboratory and into America's living rooms.

Heathkit's customers often were able to build such equipment long before their neighbors could buy factory-produced versions in department stores. When computers were still massive, big-bucks items that only corporations could afford, Heathkit was offering a do-it-yourself version powered by vacuum tubes.

Impressing an in-law. Clifford Burr, who lives in Kenmore, N.Y., built a Heathkit color TV soon after the networks began transmitting in color.

"When I finished, I was so excited to see color TV, I lugged the chassis upstairs without even mounting it in the cabinet," the 77-year-old Burr said. "I turned the set on, and my mother-in-law thought I was a genius."

When he recently learned of Heathkit's impending demise, Burr went around his house taking inventory of the kits he has built. At 100, he stopped counting, says Burr, who built kits not just for his family's pleasure, but also to equip a TV repair shop that he operated.

When he retired about 15 years ago, Burr gave away his oscilloscope to a young friend with a passion for electronics. Built from Heathkit's first kit, that oscilloscope was still in perfect working order after 27 years of continual use on Burr's workbench.

Burr wasn't the only one to start a business with Heathkits. A few years back, the Health Co. wanted to cook up a deal with Digital Equipment Corp., a leading computer manufacturer. Wise in the ways of the corporate world, Johnson expected to be put off initially with a my-people-will-get-back-to-your-people runaround. Instead, he soon found himself in the office of Kenneth Olsen, Digital's founder and chief executive officer.

"Olsen said he was grateful for what Heathkit had done for him when he was just starting out in the 1960s," Johnson said. "Olsen explained he had had only a limited amount of funds. So he took half his money and built Heathkits to equip a laboratory for his fledgling company."

No wires, no kits. In the end, Heathkits fell victim to the same rapid progress in electronics that initially had made them popular. Early Heathkits were powered by vacuum tubes whose filaments cast an eerie orange light on a builder's hands. Their components had to be connected, piece by piece, so that their chassis seemed stuffed with spaghetti-like masses of electrical wire.

But vacuum tubes have long since given way to tiny transistors, and printed circuit boards largely have done away with hand wiring. A single electronic chip is now the equivalent of the dozens and dozens of resistors and condensers that used to fill a Heathkit builder's workbench to overflowing.

In recent years, many kits required only minimal assembly, thus robbing their constructors of the Eureka Complex that an earlier generation of Heathkit fans experienced. So young people no longer get the kick they once did from building a shortwave radio and hearing voices from across the oceans, notes H. L. Parris, the North Carolinian who used to assemble kits as fast as Heath's engineers could design them. Today, an adolescent with a taste for high-tech adventures is more likely to become a computer hacker.

"I can't see the kick of staring at a computer screen," Parrish said. "To me, there is no excitement like that of plugging in a radio you've just built, when seeing those vacuum tubes begin to glow just a moment before the first sound comes out of the loudspeaker." ■

HEATH

HEALTH

Recent articles in the New York Times and Forbes Magazine notwithstanding, Heath Company is alive and well, and thriving here in Benton Harbor, Michigan, its home for over half a century.

Bill Johnson, president of Heath Company and longtime Heathkit builder, puts it this way: "To paraphrase Mark Twain, the rumors of our demise are greatly exaggerated. Contrary to what you may have heard, we are not," he emphasizes, "not going out of business. We are, however, changing our focus from the rapidly shrinking electronic kit business to the burgeoning electronics education market." ■

—Quoted from the cover of the June, 1992 Heath catalog.

From The Pittsburgh Oscillator, Journal of the Pittsburgh Antique Radio Society, Vol. 7, No. 3, September 1992.

News From West Virginia

Zane W. Parsons N8OLD, Reporter

As fall swiftly comes upon the scene, a pause and quick glance over my shoulder recalls a pretty busy spring and summer. Three meets are now behind us at the Museum of Radio & Technology. The last being the West Virginia Chapter of Broadcast Engineers, which held its meeting with us October 24.

We have received quite a lot of donations for the Museum this year. The Gray Museum of Wireless History in Cincinnati, Ohio, has donated several hundred books and magazines. It also gave numerous pieces of vintage test equipment, coils, and other equipment, including two nice wire recorders. In addition to this, more is waiting to be picked up.

Most recent donations were an Advent Projection TV System and several other pieces by Ed Verner of Lakewood, Ohio. Just today, I picked up number 1 through 200, Sams bound folders. The Sams were donated by the Vocational School in Ashland, Kentucky.

"Thanks" are in order for these items, and also to Mid-Atlantic Radio Club and many of its members individually for items loaned to the Museum. The Zenith Windcharger loaned by Joe Koester looks right in place on display. Thanks too, to John and Sarah Haught, of the Pittsburgh Antique Radio Society.

I know I have missed mentioning some who have enhanced the Museum by their generosity, and I apologize, but will try to acknowledge everyone at some other time.

I have spoken with some West Virginia Chapter ARCA members, and all were pleased that Huntington (and W.Va. Chapter) is hosting the 1993 convention. In the next issue, I will point out some of the area sights to see in '93. ■

Radio: As I Experienced It

by Bill Hoy

CHAPTER 14

Some Maverick Radio Designs

Since the beginning of engineering, designs that looked strange to customers, engineers, or both, have been placed on the market. Many of those designs have revolutionized the way we do things; many others have fallen with a thud, likened to the Edsel, a prime example. Radio was no exception. Since its very beginning, radio has seen its share of strange designs.

When a manufacturer introduces a new product, or a greatly changed model of a proven one, he faces an enormous challenge. It is a thing called *product identity*. He must be

sure his company can withstand the loss of the total cost of development and the items produced for sale. Two good examples are the Edsel and Tucker automobiles. It matters not at all whether the articles represent quality, all that matters is how the public perceives them. I have heard that many Edsels were taken from the new car storage lot, and stripped of all components which could be reused in other Ford cars then being built, that it was done to reduce Ford's still enormous losses. The same disasters have often happened in radio; every member of a design group knows just one of his decisions may cost his company dearly. On the other hand, a good decision may make him a *Fair-haired boy* in the boardroom. How do you like them odds?

There have been many unusual radio sets, some very good, some better not built. One of the earliest maverick sets I remember was the Golden-Leutz series of the 20s and early 30, especially the Ghosts. Each tuned stage of Leutz's sets was constructed in a completely separate polished-metal cabinet, then the various units of a set were placed together on a table, and connected together, by wires, to make a complete radio. This method of construction made it almost impossible to have single-dial tuning. It was also a source of feedback and instability when high-gain circuits and tubes became available.

A. Atwater Kent was another, first with their concealed wiring bread-board sets of the 20s, then individual tuning-capacitors coupled together with a metal belt, for single-dial unit, in the 30s. I was told the Atwater Kent belt system was a stop-gap measure to give them time to design a completely new set. It was accepted so well, they decided to go with it as long as sales were good. That practice is still com-mon in manufacturing. I was paid a minimum royalty payment each year from '85 to '90 for a product improvement the manufacturer felt was not needed when it was purchased in 1985. They began its production, in 1990, because they needed another new product announcement to boost lagging sales.

A prominent example was the Victor Radio-Electrolas, of about 1929. They had individual tuning capacitors, operated by a system of levers and cams, with one lever extending through the panel and dial-scale for tuning. The lever could be lifted and moved to any part of the dial, for rough tuning, then fine-tuned with a knob and friction wheel on the end of the lever. The Victor set was a fine set, but it made you aware of its *Rube Goldberg* design, as soon as you started troubleshooting it.

Another offbeat design was an early Zenith screen-grid design, tuned radio frequency set. It used RF coils with bifilar windings, where the second-aries were wound with one turn spaced from the other by the diameter of the primary wire. The primary was wound in that space between secondary turns, with no insulation except that of the wire itself to prevent the plate voltage flashing over to the secondary. It often did just that, providing me with considerable work.

(Continued on Page 14)

Radio: As I Experienced It

Continued from page 13

Before I forget, there was another unusual design of those years, the Loftin-White audio amplifier circuit. The Loftin-White direct-coupled circuit was developed and, so far as I know, used in only one set model, an Eveready manufactured by National Carbon for about one year.

The Loftin-White amplifier's problem: To operate properly, the circuit must be carefully adjusted to be in almost perfect balance. That was easy, on the production-line. As its two series-connect tubes aged, their changing plate current would throw the entire amplifier into severe distortion, requiring a serviceman's visit. Needless to say, the Loftin-White did not last long in the marketplace. Another negative for that design, it required very high DC voltages from the power supply, because the two amplifier tubes were in series, and it was not simple to operate as push-pull power stages.

Styles in Dials

It appeared that there were style phases in radio sets, as there are in automobiles. Dials, for instance. In early sets, a profusion of levers, dials and knobs were used. Later, three dials and two knobs were common. About 1927, single dials became common, with frequency-reading directly from the dial. Then drum dials came, followed by airplane dials, so called because they called to mind the large circular instruments used on airplane panels. The airplane dial became the *telephone* dial, which was a rotating ring around the outer diameter of the dial. The ring had small circular openings, similar to those in the dial on that day's telephones, thus, the nickname. The user inserted a fingertip in the correct opening and turned the dial to the preset position of the desired station.

This was the late 30s attempt at our present-day, push button tuning. I only saw one set with that feature; that was one good design that failed. After that try, they went to the slide rule dial, which has lasted to today. The digital dial, even digital tuning, is the latest to appear. I have mixed emotions about the digital dial. It does not have the feel you are doing the tuning, something detached about the feel.

By 1937-38, radio was almost cut and dried. We still had the depression; everyone had to watch every dime. Most set manufacturers were purchasing all the parts they felt they could. In their turn, parts makers were continually searching for improvement in performance of each part, and a reduction in its size, weight and cost. These things added up to better sets for the same, or lesser cost. Remember, a dollar more at factory costs means $5 or more out of the customer's pocket.

In March 1938, Hitler entered Vienna, and the thought of war entered the minds of our people. Our government, quietly, began some preparations. The National Youth

Administration was formed for the purpose of teaching young people useful trades. Later in '38, I was invited to join, as an instructor, a local school operated by the NYA. While there I soon discovered that most attention was being given to radio and telephone theory, automotive repair and other subjects important to the military, training which would be very useful in case of war. I did have one exciting experience there, the opportunity to meet and speak to President Roosevelt and some of his family members, who had come to visit our school. Roosevelt was the only man who ever left me in total awe. I met President Johnson during his term, not the same awe.

Next: The War Is Closer. ■

Radio and the Farmer Abstract of an Address

by Major-General J. G. Harbord

President of the Radio Corporation of America before the Advertising Club of New York New York City, September 16, 1925

As more or less of a Kansas farmer, I am glad of this opportunity to say a few words to you on the relation of radio to the farmer. Though I must confer that I have not worked steadily at farming—indeed, have missed quite a number of crop seasons during 34 years of absence in the Army and several more covering my recent activities in the radio industry. My memories of 16-hour days on a Kansas farm, as we lived it 40 years and more ago, are keen enough to give me a sympathetic understanding of the farmer's major problems. I spent my boyhood on the Kansas prairies, went from the farm to an Agricultural College, where I managed to graduate. To the end of my days, while memory endures, I shall continue to have an appreciation of life as the farmer lives it. So that it is with the feeling that I am, perhaps, in some small measure discharging the obligations of 40 years ago, that I see Radio—my present field of endeavor—becoming more and more a factor in the life of the farmer. To my enduring memories of the farmer's outlook, as I knew it in the days of my youth, I can now add my radio point of view, and perhaps focus the two in a few remarks on Radio and its meaning to the farmer.

With the tremendous expansion of arm wealth in the recent decades the problems of farm management and farm labor have more than multiplied. The great growth of our urban population in recent years has been due, in large measure, to migration from the rural districts.

(Continued on Page 16)

Radio and the Farmer

Continued from page 15

This represents a great loss of man-power on the farm; and it is a grave problem which affects you and me, ultimately, just as it now concerns the farmer of the North, South, East and West. A similar movement from country to city preceded the fall of the Roman Empire.

Man-power and the Farm

The immediate reason for this exodus from the countryside, aside from its part as possibly one of the great cycles of history, lies primarily in the greater opportunities for recreation and interest afforded by life in the city. then, too, city life has many more comforts to give its workers. One must have lived on the farm, especially in Winter; must have dug fodder from under the snow; or have seen the sun rise down the long vista of a corn-row with the mercury in its teens; or have harnessed mules in the dark; or have milked half a dozen cows before breakfast, to appreciate the life of the farmer's boy of the old days. and even with the improvements of recent years, life on the farm is not for the soft-handed weakling.

Yet it has not been the physical hardships, but the dullness of life the utter monotony, and the lack of recreation that has caused the farm boy and girl, as well as the paid farm laborer, to desert the old farm and seek the city.

Something has had to be done to cherish our farm life and safeguard our great farming industry. The farm has had to be made more attractive, both in the actual work done, and in the actual living of its life. Much has been done and much remains to be done.

Agencies of Entertainment and Education

The rural telephone first came and, to some extent, helped to end the isolation of farm life. The farmer and his family, even though many miles distant, could keep in touch with their neighbors when the telephone line came to their home. The rural telephone line is usually a purely local institution. It is of practical utility, but it is also a convenient means of keeping in touch with friends living too far away for face-to-face conversation and exchange of gossip. Farmers' party lines, I have an idea, are largely supported by the exchange of news between the women of the rural neighborhood. The farmers' party line, with numerous eavesdroppers listening in on conversations not intended for them, must have been a legitimate ancestor of the broadcasting of our modern day.

The gasoline engine has had a marked influence on the farm in doing the hardest and meanest chores and in saving valuable manpower. Electricity, via the rural service line, has brought many advantages and comforts to the farmer and his wife. Pumping plants and running water

have become common.

Among the other modern agencies which are redeeming farm life, let us not overlook the automobile. What the rural telephone started, the automobile has continued. Before its introduction the farmer's radius of social activity, represented by a day's drive of his team, was less than a dozen miles from his home. Now he travels 5, 10 or 25 miles to visit friends; to town to do his shopping; to attend the lodge; the Chautauqua; the moving picture show; the political rally or the Follies.

The voice of radio broadcasting penetrates the cottage of the humblest farmer as readily as it does the palace of the Fifth Avenue millionaire.

Education, too, has had its evolution—with apologies to Dayton, Tennessee—in the remote rural districts. One of the great drawbacks to farm life in my boyhood days was the lack of good schools. But in recent years the "little red schoolhouse" of blessed memory has been replaced by the rural grade and high schools, which are fully as well attended as similar schools in the city.

All these things have added to the pleasure of life on the farm. Yet it has still remained a lonely place, largely isolated from the outside world. During the winter, especially in the northern sections, the roads are often not negotiable by motorcars, and the farmer, now as in other days, is more or less marooned for weeks or months. He and his family have not received the entertainment, the news, the contact with national leaders, the sporting events and other advantages which are enjoyed by his brother in the towns. Nor has the business of his life been more fortunate than the social side. Crops running from hundreds to many thousands of dollars in value have been disposed of more or less in the dark. Without immediate knowledge of the conditions and prices of various markets, the farmer has sold his crops on a hit-or-miss basis. He has sometimes shipped them to markets which were already glutted, while excellent markets, begging for the identical class of products, have been neglected from lack of timely information.

Radio—the Touchstone of the Farm

Radio Broadcasting, I devoutly believe, is the greatest force yet developed by man in his march down the slopes of time. Since Gutenberg devised his crude wooden type and made printing possible, nearly five centuries ago, there has been no single invention so closely touching human interest and human welfare, as this miracle of the ages. The voice of radio broadcasting penetrates the cottage of the humblest farmer as readily as it does the palace of the Fifth Avenue millionaire. It laughs at distance. It recognizes no distinctions and plays no favorites. It is the entertainment and the education for the million as such is available to everyone, being literally, as free as air.

(Continued on Page 18)

Radio and the Farmer

Continued from page 17

For a fraction of the cost of his motorcar, the farmer buys his seat in the radio audience, in the form of a receiving set. Thereafter the farmhouse is in touch with city life; its isolation has forever gone. Via radio the farmer goes to distant markets to learn conditions and better to direct the shipment of his crops and livestock. Through radio he receives the advice of agricultural authorities. It is a friend in the time of the farmer's need. Be it insect plague, animal epidemic, threatening weather or other adverse condition, the radio brings to the farmer the information necessary to meet the problems of the time. With these utilitarian benefits of radio there come a wealth of entertainment. The great men of the nation, the President himself, will speak in the farmer's home. To paraphrase the Sage of Concord, if a man have a radio receiver, no matter where he be, the world will beat a path to his door.

Now for a few of the details of these varied services which roughly divide into the two parts of information and entertainment:

Radio Broadcasting as a Dollar Saver

The chief handicap to the farmer in marketing the results of his labor has been his lack of knowledge of market demands and the trend of prices on the day when he started his products to market. Radio can supply the need by giving market information, accurately and timely. That is what is being done by broadcasting stations throughout the country with the free cooperation of the United States Department of Agriculture (USDA), similar bureaus in the states, and certain farm journals whose interest in this work extends quite unselfishly beyond their printed page or their subscription lists. With accurate crop and market reports the farmer, in full confidence, can work with his radio information in much the same manner as the stock broker does with his ticker tape in buying and selling stocks and bonds. In this connection the Bureau of Economics of the USDA does excellent work. It uses radio telephony, broadcasting, as well as radio telegraphy, dot-dash code, to disseminate information. Weather forecasts and warnings are broadcast regularly from about 90 stations. Market and crop reports, including general kindred information, are broadcast from four stations by radio telegraph and from over 75 stations by telephone for the use of all interested. General agricultural information, the so-called Agriograms, containing facts of value to farmers, consumers, housewives, and others, are sent out with the programs of more than a hundred broadcasting stations. The weather, crop and market information is distributed according to regular schedules maintained by cooperation between the Federal Department and the various private broadcasting stations. General agricultural information is supplied regularly and on special occasions to

(continued on page 35)

J. Albert Moore Memorial Editorial Award

1986: Presented to his wife, Violet Moore, in honor of Mr. Moore's contributions in a series of articles before his passing.

The award, to be know as the *J. Albert Moore Memorial Editorial Award* is presented annually to individual or individuals who collaborate on an article or series of articles published in the *Antique Gazette*. This is the most prestigious of awards made in recognition of published works in the pursuit of the preservation of our Radio heritage.

1987: William Hurni, North Wales, Pennsylvania - Feature story on *WNP, Wireless North Pole,* Vol. 16, Spring 1988 No. 1.

1988: James A. Fred - Series of articles entitled, *Old-timer's Notebook*. Mr. Fred has retired his pen, but his many fine articles are always worth reviewing.

1989: Larry Babcock - Series of articles on Wurlitzer-National-Stratovision.

1990: William L. Hoy - *Radio: As I Experienced It. See,* Vol. 18, No. 3, page 5.

Note: We are all going to miss this very fine series. With this issue comes the last in this series. Bill had prepared this ahead of time.

1991: John and Ruth Drake - Received the award for over 15 years of dedication in bringing the *Gazette* to the membership. This type of dedication is very uncommon in an organization where there is only an occasional *thank you* for the hundreds of hours of work. Again, *Thank You,* John and Ruth, for your love of the preservation of radio history and the many splendid articles you have edited.

1992: Clyde Haehnle and Edwin Dooley - Joint work on the *WLW 500KW Transmitter* story. This two-part series may be the best historical documentation every presented.

Following is a brief biography of their involvement with WLW and their careers:

Clyde G. Haehnle was involved in the operation, maintenance and testing of the 500,000 watt transmitter from 1941 through 1943, during the time that it was licensed for experimental use with the call letters of W8XO. Experiments were conducted at radio frequency power levels of 700,000 wats and modulator audio powers of 300,000 watts.

After termination of the experimental operations in 1943, Mr. Haehnle represented the Clear Channel Broadcasting Stations as a group, in Washington, D.C., before the Federal Communications Commission Hearings on high power (Docket 6741) in 1945.

Edwin B. Dooley worked with Mr. Haehnle in the preparation of engineering documents for the FCC Clear Channel Hearings in 1958. Messrs. Dooley and Haehnle also worked as a

team in the development and operation of the high-efficiency re-entrant rhombic antenna systems utilized at the Bethany plant of the Voice of America.

Messrs. Dooley and Haehnle each graduated from the University of Cincinnati with degrees in Electrical Engineering and both are registered Professional Engineers in the State of Ohio. Mr. Dooley joined WLW in 1950, became Chief Engineer of Television in 1963 and retired in 1987. Mr. Haehnle joined WLW in 1941, became Vice President of Engineering for Avco Broadcasting in 1966, resigned in 1976 to become Executive Vice President of a media brokerage firm.

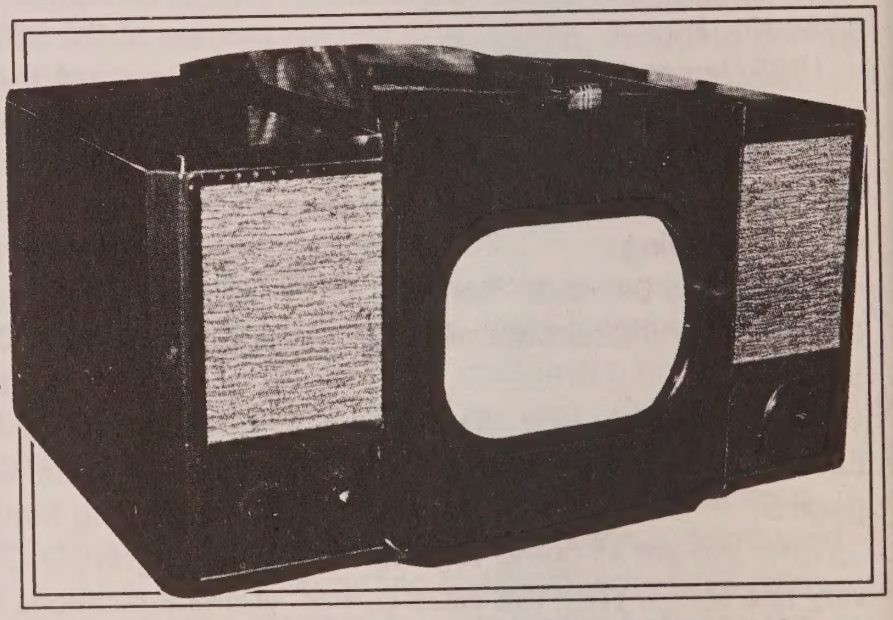
Father Of A Rip-Off

by Bob Rockwell

Remember when TV sets were advertised at $ XXX.xx *plus installation?* Did you ever wonder how this marvelous way to make a buck came to be? In the beginning (after the flood and all that) RCA built their early production sets with the Kinescope (picture tube) separately carton packed. The set literally did require *installation.* After the mounting of the kine, all of the setup adjustments had to be made. Of course, in most cases the RCA Service Company techs also put up an outside antenna which was usually the classic RCA aluminum two element beam with the wooden boom.

After the sets came completely setup in the carton, everybody figured why not go right on installing them, after all they did need connected to an alternating current source and sometimes even a two wire antenna, didn't they? And, if you were lucky a *lightning arrestor* would be included with a ground wire.

At the PARS/ARCA National Convention Auction on June 6, one of these early RCA sets (gee whiz– channel 1) was sold. A lot of people probably wondered why it was built with a sort of a removable half-dome in the top. Kind of like the top of a cathedral radio buried in a box. That was how the pix tube was dropped in along with an easily removable safety glass front plate.



RCA 630 TS, 1946, 10" Dave Johnson

Antique Radio Club of America, Inc. and Museum of Radio And Technology, Inc.

Invites you to make plans to attend the National Convention of ARCA June 10-12, 1993. This will be another major radio event featuring seminars by recognized speakers, large traders' market auction and Old Equipment contest.

If you can attend only one major radio event in '93, make it ARCA in Huntington, W.Va. Sponsored by West Virginia Chapter.

Write to ARCA -'93, c/o John Haught, 5268 Webb Street, Aliquippa, PA 15001 or phone (412) 378-4026.

Antique Radio Club of America, Inc.

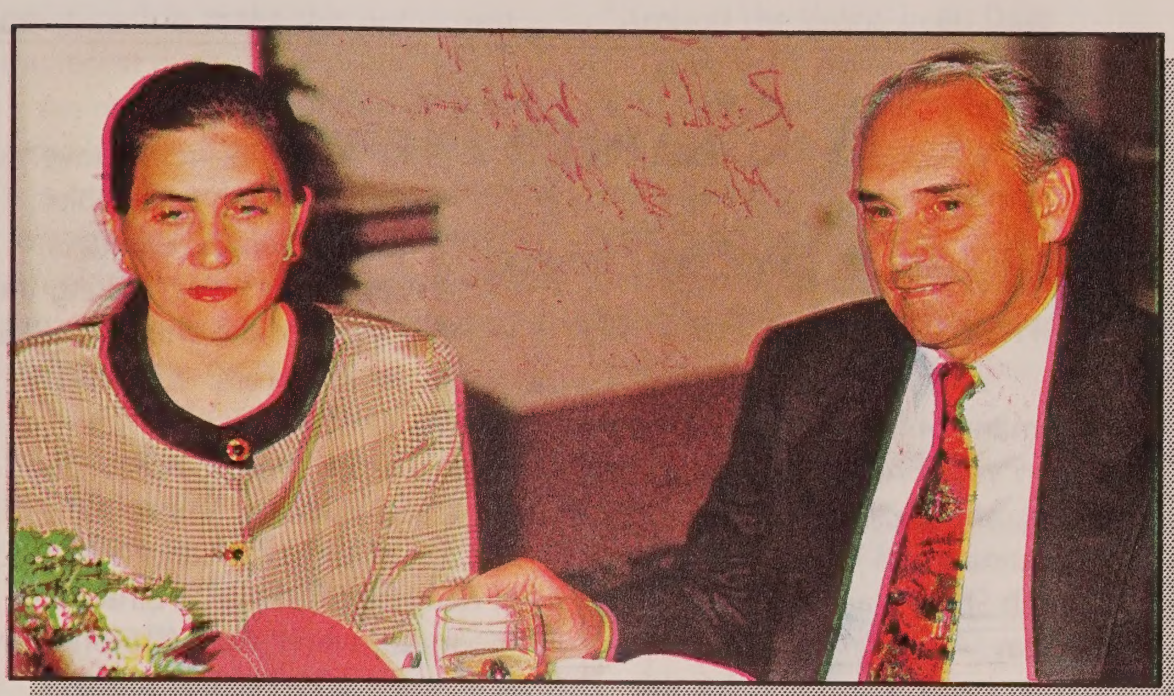
Our New Members

F. H. Martin, Horseshoe Bay, TX
Howard A. McGee, Glendora, CA
N. F. McNally, Pawtucket, RI
Hugh Metcalf, Lodi, CA
William L. Norton, Cumberland CRT, ME
Thomas E. Palmer, Brookfield, WI
Robert C. Parker, Honolulu, HI
Alfred Pugliese, Woodhaven Queens, NY
Steve A. Queen, Ronceverte, WV
Gerald L. Ragland, Franklin, OH
Mark S. Raubert, Minden, NV
Lawrence J. Renn, Louisville, KY
Vince Roberts, Owensboro, KY
David B. Rodgers, St. Maries, ID
Mortimer Rogoff, Washington, DC
Edith Sanford, Shreveport, LA
Mark Shaw, Cincinnati, OH
Glenn T. Snoddy, Brentwood, TN
W. W. Staats, Ripley, WV
J. B. Tandy, Owensboro, KY
Thomas A. Thomoon, Pulaski, WI
Gary D. Tice, Marietta, GA
Richard Berghamer, Cincinnati, OH
Clifton Billingsley, Texarkana, AR
Robert M. Binder, Sewickley, PA
Gregory L. Bridges, Macon, GA
Erik Carlson, Lubbock, TX
Anthony J. Coco, Alliance, OH
Estelle M. Crawford, Buffalo, NY
Dean Edward DeLaho, Hayward, CA
Charles J. DeTaeye, Moline, IL
Dennis Elsemore, Princeton, ME
Robert B. Enemark, Duxbury, MA
Tom Gould, Monticello, MS
Nick Halonen, Foxboro, WI
Frank H. Harrison, Jr., Wichita Falls, TX
Herbert Haynes, Honolulu, HI
David Hofeld, Linwood, NJ
Donald C. Holdaway, Grand Island, NY
Dr. Rollin C. Jones, Kailau, HI
Kenneth O. Knudson, Elmhurst, IL
Elmer Laughlin, Mercer Island, WA
Ed Lemboke, Hampton, VA
Jonathan S. Lowe, New York, NY
Rodger H. Wetz, Elyria, OH

Geoffrey Bourne presents the "Best of Show" to John Deloria. See Volume 20, No. 2, front cover.

RIGHT: Lloyd McIntyre presents the Travel Award for the greatest distance to Edison DeFreitas. Edison and his wife traveled from Sao Paulo, Brazil.

BELOW: PARS President Richard Brewster receives host Appreciation Award for a grand convention in Pittsburgh. Presentation by President McIntyre.



Top: ***Mr. and Mrs. Edison DeFreitas, Tavel Award winners.***

Right: ***ARCA Founder and Director, John Caperton, accepts chapter recognition plaque on behalf of the Kentucky Chapter.***

Bottom: ***Jack Parsons accepts the "People's Choice Award" for his outstanding Eveready Advertising display. Geoff is all smiles as Eveready is his major focus.***

ARCA Chapter News

HARPS Show Success Despite Downpour Radio Tune-Up

For many of us members of the Hudson Valley Antique Radio & Phonograph Society (HARPS), the Third Annual Old-Time Radio & Phonograph Show started a day early, on Friday, August 14th. The weather had taken a turn for the worse, rain being forecast for the next few days. The founders and organizers of the show who decided to set up tents and canopies for their outside booths were busy at work Friday evening, setting up tables and arranging our radios and phonographs.

After a delicious meal of chicken wings and chips at 11 p.m., someone asked if all of the directional signs had been put up. Oh dear! So, off we go, two of us, to return to our respective vehicles around midnight to try to get some sleep.

At 3:30 a.m. our first prospective buyers arrived and woke us all up. Considering the fact that they had traveled from Canada they were forgiven, but told to wait until 8 a.m. like everyone else. At 5 a.m., fellow club members and dealers began to arrive and the final touches were added. By 8 a.m., all of our vendors were set up and collectors were everywhere.

There were a full range of items from beautiful radio/phono consoles to victor horn machines, and items including advertising collectibles, tubes, records, cylinders, and much more. During the course of the show, HARPS members put on several demonstrations, among which was a flame speaker in which there is no coil, no magnet, and no cone. The sound comes out of an oxy-acetylene flame. Also, demonstrated was a binaural phonograph, where two cartridges on a single arm play a record that has two distinct sets of recorded grooves. One member played a beautiful Vic V, complete with oak horn.

Although the downpour began just around noon, the crowd just kept coming. Our buyer count was between 500 and 600 people, and dealers weren't able to pack up until almost 4 p.m. And, they were still arriving then. The Third Annual Old-Time Radio & Phonograph Show was a great success for buyers and sellers alike. Now, for a little rest and relaxation. No, time to start planning

The Antique Radio Club of Illinois

Radiofest 1992 Report

Radiofest 1992, our tenth anniversary meet, was a tremendous success by any measure. Ideal weather, over 300 sellers permits issued for the flea market, and more than 800 guests from 39 states and five countries

combined to make this our largest Radiofest ever.

An unexpected number of Tuesday arrivals promoted the early start of flea market activity. Two parking and selling areas adjacent to the Holiday Inn along with shuttle buses for transportation were hurriedly rented to accommodate the crowds.

Tours of the new Motorola Museum and Muchow's Historical Radio Museum were offered and well attended. ARCI is grateful to Dr. Ralph Muchow for opening his museum to all of us.

Back by popular demand, Matt May purchased radios in the flea market and repaired them before his audience in his presentation "Making that Old Radio Work." Don Patterson's video/slide presentation of "The Radios of A. H. Grebe" was a similar success.

The Main Exhibit, capably orchestrated by Scott Hagerman, consisted of "Radios and Televisions of the Art Deco Period." Chrome front, mirror and other seldom seen sets of the 30s including a prewar GE television rounded out this year's display.

The Thursday night auction included 375 lots sold for a total value of $33,00. The tremendous variety of high-quality items were totalled by computer thanks to a program written by ARCI member Karl Ayer.

Best of show in the Old Equipment contest was won by Marion Van Hal for his Atwater Kent display which included some very rare advertising pieces and a new in box model 20. a seldom (never?) seen set which was a prize winner was a green Regency RT1 given as a personalized gift by Michael Todd, director of the movie "Around the World in 80 Days."

Radiofest's Awards Banquet was a sold out affair as Norm Smith of Bradenton, Florida presented his stereo/video show on the latest collecting rages, transistor radios.

ARCI has already reserved the entire Elgin Holiday Inn for next year's Radiofest. Plan on being there August 4-7, 1993.

(More on Chapter News page 28)

William J. Halligan

Private services were held for William J. Halligan, 93, the former head of Hallicrafters Co.

A resident of Bal Harbour, Fla., he died July 14, 1992, in a Miami Beach Hospital.

The former North Side resident founded the business in Chicago in 1933. It manufactured radio, television and electronic equipment and also designed and built equipment for the military. When Hallicraters was sold to Northrop Corp. years ago, it was located in Carol Stream.

Mr. Halligan, a Boston native, was an amateur radio operator. His family said the company "was considered the foremost name in amateur radio equipment worldwide.

Set-up time at Hudson Valley Antique Radio & Phonograph Society (HARPS) Show, Saturday, August 15, 1992.

At the Hudson Valley Antique Radio & Phonograph Society (HARPS) Show, business was brisk indoors and out, despite the rain!

MR. GRIDLEY
©1992

Left: The President's Award presented to Dr. Ralph Muchow by contest director Geofrey Bourne.

Right: John W. Weyer, ARCA-PARS Convention, 1992.

NOTE:

If you are a new member, copies of these Gazettes are available for $3 each from our secretary.

by Ron Boucher

Hudson Valley Antique Radio & Phonograph Society (HARPS)

July 31, 1992

Dear Mr. McIntyre,

On behalf of the Hudson Valley Antique Radio & Phonograph Society (HARPS), I would like to take this opportunity to thank you personally and ARCA for accepting our club as full chapter members in your illustrious organization. That in itself was a great honor, but the plaque you sent us is absolutely beautiful and such a surprise, the entire membership was overwhelmed.

Our sincere thanks to you and any others who are responsible for this wonderful gift it will always be cherished by all.

I have been a member of ARCA for many years but to my shame, it's been a few years since I've attended any meeting. I will have to correct that in the future.

Wishing you many more years of success as President of ARCA, and again our sincere gratitude from all the members and myself, it is a great honor to be part of ARCA.

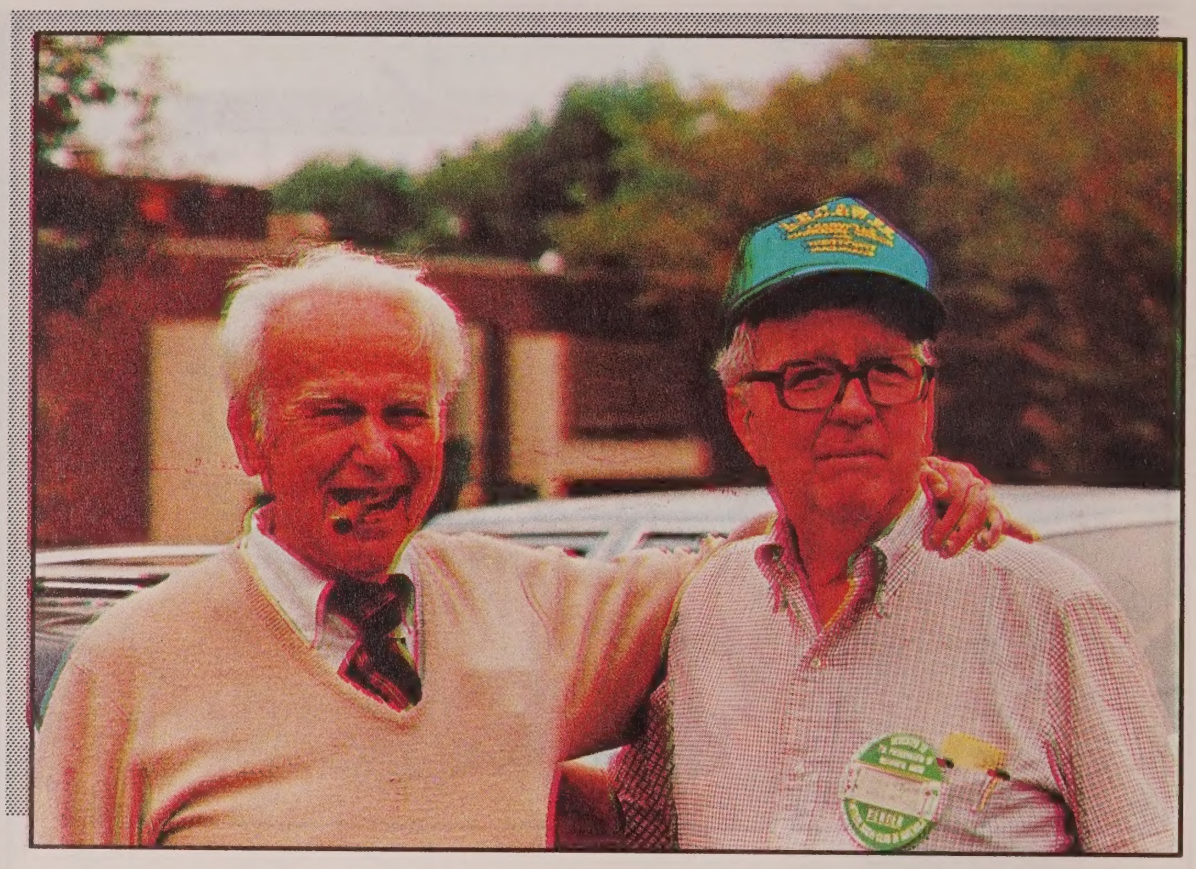
Sincerely

Art Kingsley, President

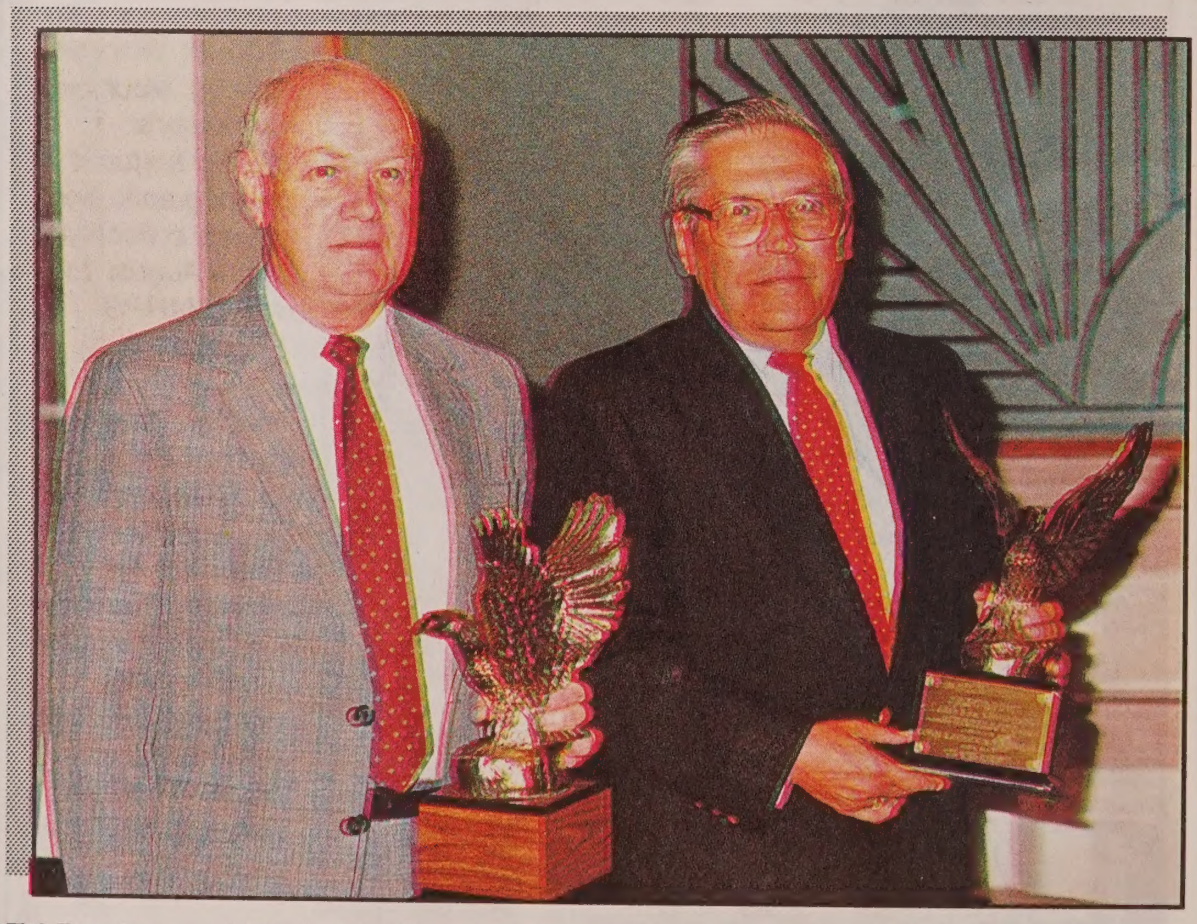
(See page 24 for August HARPS Show)

Above: Victorian Talking, Machine Company's display featured phonographs and related collectibles at the August 15, 1992 HARPS Show.

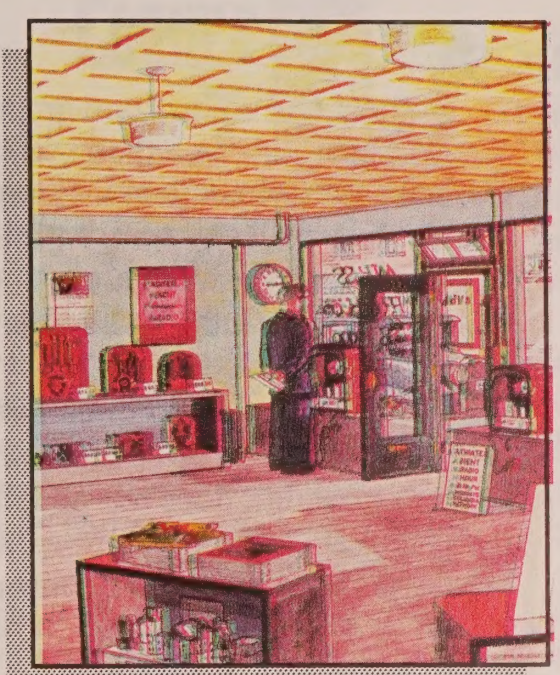
Hudson Valley Antique Radio and Phonograph Society (HARPS) President Art Kingsley (front left) and member John Gramm (front right) demonstrate flame speaker. Charlie Hummel (left) and Denny E. Jaul.



Everyone is in "Mel's Corner." He never met anyone for whom he didn't have a kind word and a smile that is all from the heart.



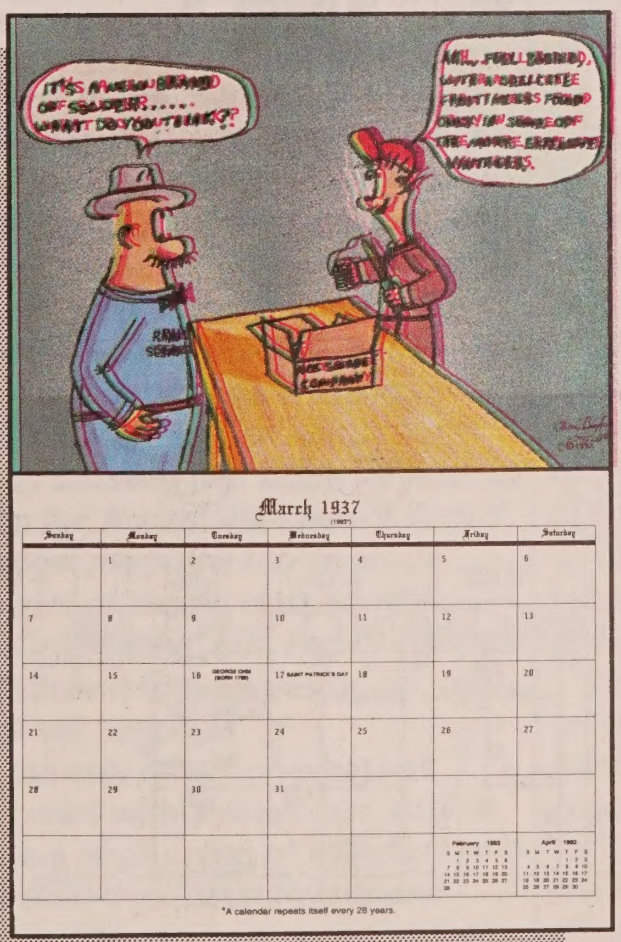
Ed Dooley and Clyde Hanley presented the J. A Moore Editorial Awards.



Signed and Serial Numbered Print. 11" x 14". $9.95 plus $1.50 postage. Available from the Museum of Radio & Technology Bookstore, 4704 Country Club Boulevard, South Charleston, WV 25309.

11" x 14" Full Color Poster
Signed & Serial Numbered $9.95

PLUS $1.50 POSTAGE



Order your 12-month 1993 calendar today!

The 11" x 17" calendar features a different, full-color drawing each month by cartoonist Ron Boucher, along with important event listings for each month.

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Transistor Topics

The First Motorola Transistor Radio

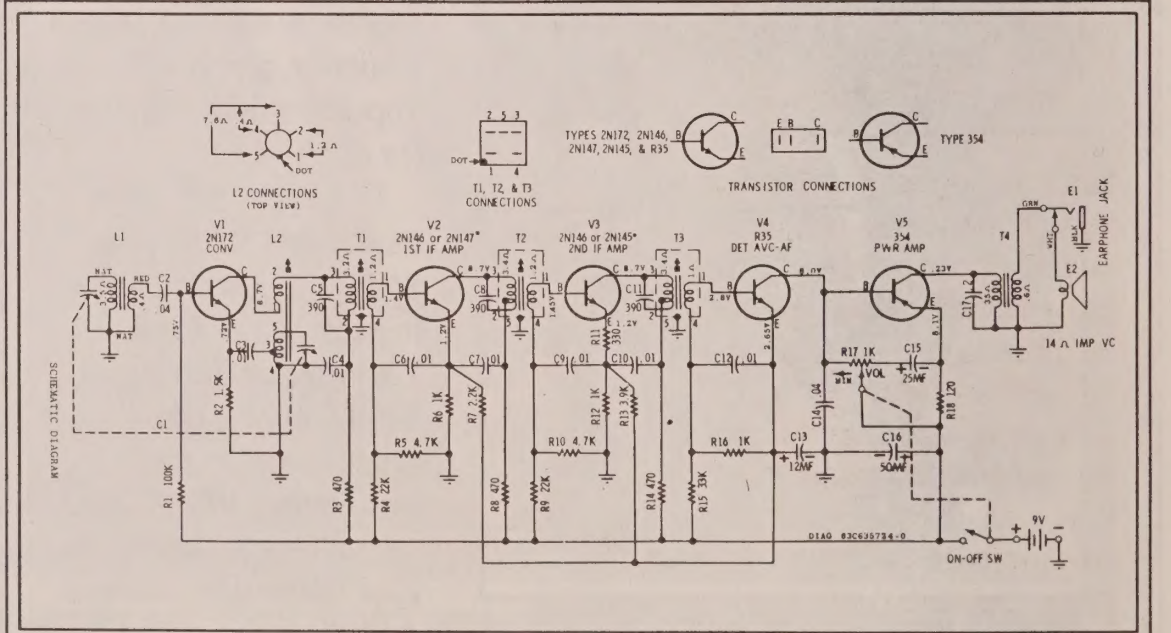
by Ross Smith

Motorola's first consumer radio to use transistors was Model 56T1 for the 1956 model year. Mr. Eric Schuster of the Motorola Museum of Electronics, located at 1297 E. Algonquin Road, Schaumburg, Illinois 60196, was kind enough to send photocopies of the first catalog sheets and service manual for this set.

The 56T1 is a five-transistor superheterodyne set featuring an aluminum unbreakable case measuring
5½" x 3 9/16" x 1½", including the vertical plane rotating antenna handle. It was billed as *the world's most beautiful pocket portable*, in gold and white lizard-grained fabric with an antique white plastic handle roto-antenna. The gold-finished faceplate and trim, with the bright red volume switch knob, makes a very attractive radio. A jeweler's bag is included.

Motorola claims up to three times more power for the 56T1 than other pocket radios, but does not describe the technicalities of this statement. Transistors used are 2N172 converter, 2N146 or 47 1st IF amplifier, 2N146 or 45 2nd IF, R35 or 880 detector-AVC-diver and 354 power output. The set uses a conventional plated circuit board, a 2¾" speaker and a standard small size 9-volt battery. The IF frequency is 455 Khz. The set weights 18 ounces. ■

Schematic courtesy Motorola Museum of electronics. Picture courtesy of Steven D. Martin, by Michael Cooper, Media Affiliates, Scottsdale, Arizona.



MEL'S CORNER

First thing this year was an article on our hobby that appeared in the AARP *Retired People* magazine—enormous circulation. The print was hardly dry when in comes bags of mail from the post office. You can easily see folks heading for their attics seeing if that old radio had not been tossed away.

What a job for the readers of all that mail. All has to be answered with replies answering many questions. Thank goodness the files of old magazines and catalogues are still around—where answers are obtained.

Those with prominent names, such as De Forest, RCA, Greb, Zenith and others are easily available. Then come the others whose names most have never heard of. The back-alley builders of those sets mostly emanate from good old Cortland Street, New York City. The usual question that arises, "What are they worth?"

At present, most of those letters have been answered. We assume a lot of our *collectors* are sitting with new items on their shelves.

This situation had barely cooled when the August 7th issue of *Forbes Financial* magazine ran an article, *Pioneers of the Wireless Society*—most interesting. But, *Forbes Financial* is dedicated to the investor. So, now what will happen?

I can only reflect on what has happened with antique cars. At first, it was a small group of collectors who cherished their backgrounds and history. Old cars were available then, mostly for a song. The main meet held at Hershey, Pennsylvania, each year covered a small portion of a football field. Cars, as they were found, maybe cleaned off with an old rag or so. No attempts at full restorations. Maybe you could find a part, or so, you could swap for an old fender.

Odd-sized car tires long depleted became in demand. The few available were either rotted or non-usable. As the meets grew in size, manufacturers got back into the act. Today, name it—you have it.

As years jumped with these collectors, crowds at Hershey has had attendance well over the 100,000 mark. This year, who knows. The flea market for old parts, originally just a few tents, now covers at least 20 acres.

If you wanted to buy an old Model T Ford then, a hundred or so bucks and haul it away. Today, try and find one for $10,000. Forget a Duesenberg or Bugatti, which now goes for $7 million. How did this all come about?

The ordinary collector was wiped out of the market. All he could find was some dilapidated wreck he might restore. The day of the *investor* had arrived. Do these reflections have any bearing on our antique radios? Is this a trend now on the way?

Forbes article even mentions the dates of the coming AWA Convention at Rochester, New York, September 23-26, now practically sold out. What will the values be at next years meet as publicity gets around?

There are just so many real old antique radios available anymore. The trend is to the later types. Do our new collectors realize what a radio tube is for? Now, collections of *antique* transistors are appearing—*hi!* ■ ***(See photo page 30)***

(More on Mel's Corner page 41)

RADIO COLLECTOR BOOKS

Radio Mfgs of the 1920's
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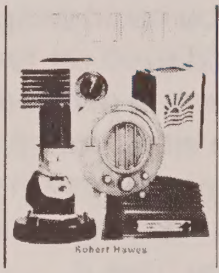
Vol 3 NEW $29.95



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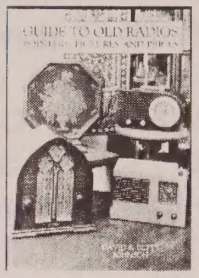

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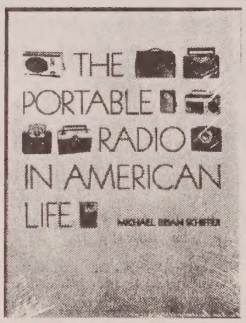

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American Life
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Old Time Radios
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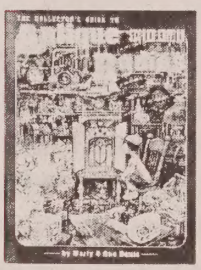
256 pgs. $16.95

Nikola Tesla - Inven-
tions, Research, Writ-
ings. 496 pgs $16.95

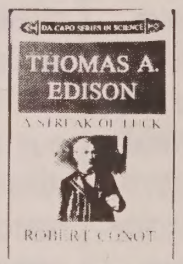
The Cat's Whisker
50 Years of Wireless
Hardcover $14.95

Flick of the Switch
1930-1950, 312 pg
1000 illus. $11.95



Collector's Guide to
Antique Radios
5000 Models $16.95

RADIOS - Redux Lis-
tening in Style. 120 pg
Color NEW $17.95



Thomas A. Edison
A Streak of Luck
562 pgs. NEW $13.95

Legacies of Edward
Howard Armstrong
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Radio Set Socket
Guide 256 pages
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Vision by Radio by C. Francis Jenkins, 140 PGS. $9.95

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broadcasting stations to be included in their programs of entertainment and information. While the Department of Agriculture does not own any stations, it has the very general cooperation of private concerns and public institutions all over the country.

The city listener, tuning in on a station, only to hear a voice reeling off the price of White Leghorn eggs, fancy cabbage, red onions and pork, where he had hoped to hear jazz, may not be much impressed with the value of market reports. He may then depreciate the use of radio facilities for matters that are without interest to him. But at that very moment there are thousands of men on farms who have laid aside everything else in order to listen in on what is, to them, business information—a matter of dollars and cents in handling the crops of the season.

By giving the farmer what he wants just when he wants it, broadcasting will widely extend the emergency services of the various agencies which the Government has created to help him...

To the city dweller, luxuriating in a steam-heated apartment, it may matter little to know that a cold spell is expected within 48 hours, but to the farmer it means the orchard to be protected from frost, the hen houses to be closed, the pumps and pipes to be drained, the emptying of tractor and automobile radiators. Weather reports are very valuable in times when perishable crops are being gathered. The farmer must make his hay while the sun shines.

There are many uses of radio broadcasting in connection with the securing of labor in time of scarcity; in coping with epidemic among farm animals; in battling against insect pests; in furthering the mission of farmers' organizations; and in developing better methods of farming. In rush season broadcasting may well call attention to the availability of labor supply. It may contribute to the fluidity of such supply, by enabling one region to draw on the labor surplus of another.

Helping to Combat Animal Epidemics

In animal epidemics there is, generally, no lack of information as to the proper procedure. The problem is to make such information instantly available. The farmer who, in times of emergency, must act promptly, lacks the time or the inclination to consult a distant authority, and he cannot keep a herd of sick steers waiting while he wades through a maze of many pamphlets to find the particular treatment needed. Time and availability are the very essence of his situation. By giving the farmer what he wants just when he wants it, broadcasting will widely extend the emergency services of the various agencies which the Government has created to help him, and to support which he pays taxes.

But in the long run, perhaps the greatest utility of radio to the farmer is in tying in with the extension work of various agricultural colleges and schools, as well as the various State organizations devoted to improvement of farm methods.

(Continued on Page 36)

Radio and the Farmer

Continued from page 35

Today but a relatively small number of farms benefit from such instruction. But in some sections of the country this class of broadcasting is being served to farm listeners, and in time it will be generally available. With 31,000,000 people living on our farms, the agricultural colleges of the country enroll but 150,000 students. Here is an opportunity, vast in its possibilities, to extend the scope of agricultural education. Radio should bring the advantages of scientific schooling to millions of farmers. It will enable the student, whose college course has been interrupted, to continue it often under the same instructors. With practical men in charge of such instruction, the potentialities in this line are without limit.

Radio as a Medium of Religion and Education

The cultural and spiritual possibilities of radio can not be measured by comparison with any other agency. It can bring to country schools in remote districts the lectures, the music, the addresses of prominent men and specialists in every field, as well as the educational methods of the metropolis. It means instruction for the pupils and professional stimulation for the teachers. Radio draws no line between fundamentalist and modernist, and sermons are available every Sunday from the lips of America's most eminent divines. this means much to remote small communities unable to support a pastor, or whose only chance of worship is one or two Sundays a month. Radio worshippers may begin with early sermons to the East and, following the course of the sun, benefit by services extending from Plymouth Rock to the Golden Gate.

The Entertainment Features of Radio Broadcasting

It is too trite to tell you that play is needed to keep Jack from being a dull boy, and it is unnecessary to linger on the entertainment features of radio. In covering and field of harmony, from the "canned music" of phonograph and automatic piano to flesh and blood talent, the broadcast studio has had difficulty to find material for its programs. The trend of the time is that, instead of waiting for talent to come to the studio, the program manager is now searching for attractive material. The leading broadcasting stations have developed a system of "pickups" extending to various sources of entertainment, by which attractive program features are picked up and carried by wire to the broadcasting station, where they are sent out in the same way as ordinary studio performances. This service is steadily improving. Technical developments are overcoming distortion and the losses formerly experienced in passing sound values over the pickup wires. Some of the best features of later-day broadcasting come through the pick-up system. The farmer may enjoy his evening meal with dinner music from the Rose Room of the

Waldorf. When he is smoking his after-dinner pipe he may attend the banquet of a prominent society at which the spokesman may be no less a man than the President of the United States. Cloyed with oratory, he may yet follow with the thrills of a boxing contest. Still later he may enjoy the music of a great symphony orchestra.

This pick-up system enables the same program to be given over a broad expanse of territory. In the case of the Radio Corporation and its associated companies, for example, we very often pick up a program in Washington and broadcast it simultaneously from the WJZ station in New York City, and the WGY station in Schenectady. Wonderful radio plays produced by the WGY Players are likewise transmitted from WGY and our other New York Station, WJY. In the case of features of nationwide interest, as many as 18 radio broadcasting stations have been employed for the simultaneous rendition of the same program.

Grouping of Stations for More Universal Service

This grouping of stations, which is steadily growing in favor, brings to the farmer the best program features obtainable in the land. He is no longer isolated by the topography or geography of his general locality. Whenever there is something of unusual interest in the distant city, he may be fairly sure that the grouping of stations will bring the event to his sitting-room.

Over 600 broadcasting stations insure plenty of material for a receiving set no matter where it may be located. The United States are fairly blanketed with radio service, so that the farmer, anywhere and everywhere, merely has to choose and tune in on what he likes best. With super-power stations this will be increasingly true.

For youth and age alike, radio entertainment is always available. After the day's work, when the supper dishes are cleared away, the farmer and his family can gather around the open fire in Winter and listen to the music of Grand Opera, conscious the while that the voice of the prima donna reaches them by radio before it is heard in the Diamond Horseshoe, or in the back row of the orchestra circle, for such is the speed of radio as compared with the speed of sound waves.

I Believe that radio has greater application to the farmer and to farm life than to any other phase of our national life.

I Believe that radio has greater application to the farmer and to farm life than to any other phase of our national life. The urban citizen was the earliest to benefit from this invention, but the farmer will ultimately derive from it the greatest real profit and enjoyment. No other invention since the steam locomotive is designed to have such widespread influence upon rural life, because no other has carried so much comfort, enjoyment and potential prosperity to the farm.

(Continued on Page 38)

RADIO AND THE FARMER, *Continued from page 37*

Of all that may be said of radio in its various relations, the best is that it will tend to keep the young people on the farm. There is the true independence; there is the real throne of the american sovereign. Entertainment and culture, and the throbbing life of the metropolis, carried to the farm by radio, helping to make rural life more attractive and desirable, will sustain that class which in ours, as in all other free countries, is the very backbone of our national existence.

Myself a son of the soil, it will be a great satisfaction to my later years if, through radio, I can in some measure pay the debt I owe to a farmer ancestry and my heritage of health and to the simple life which was all that my boyhood knew. ■

BOOK REVIEWS

ANTIQUE RADIO RESTORATION GUIDE, 2nd Edition

by David Johnson

Antique radios hold a charm all their own; aesthetically for the interesting craftsmanship and design as well as nostalgically for recalling simpler times when entire families huddled around the radio as a beacon for entertainment and information.

Today these antiquated radios, if in working order, especially those from the 1930's, '40s, and '50s, are highly sought-after collectibles which command premium prices. A former radio engineer, David Johnson explains how to restore old radios to working order in his updated book, Antique Radio Restoration Guide, Second Edition. This is a much needed update to the original which covers all types and levels of repairs, from turning your receiver on to repairing and refinishing wooden and metal cabinets. Generously illustrated with black-and-white photos, diagrams, and schematics, this manual will put you on the same wavelength as professional restorers. Straightforward instructions will guide beginners new to repairing radios through choosing the best radio to restore, troubleshooting and repairing circuitry, and safety precautions when making repairs. Additional information includes sources for parts, information on common vacuum tubes, and a glossary of technical terms.

About the Author: David Johnson is a former radio engineer. he and his wife, Betty, are also antiques dealers and the authors of *Guide to Old Radios: Pointer, Pictures, and Prices* (Wallace-Homestead, 1988). They make their home in Rice Lake, Wisconsin.

Antique Radio Restoration Guide, Second Edition is published by Wallace-Homestead Book Company. Order your copy from the Museum Bookstore. Price: $14.95 Paperback. Publication Date: October 1992. ■

Book Reviews

The AWA Review, *Vol. 7, 1992*

The latest addition to AWA's fine *Review* series will be available at AWA's Rochester Conference, September 23-26, 1992, thereafter, by mail from the address above. As we have come to expect, this review is packed with fine, in-depth articles. Radio collectors and historians will want to add this volume to their libraries.

The lead article, by ARCA member Bob Lozier, describes the Italian People's Receiver of the 1934-1942 period. this well-illustrated, 13-page article reveals that home receiver development in Italy (Marconi notwithstanding) was far slower than that in the United States.

As one who grew up in the vacuum tube era, this reviewer found most exciting the 17-page article by Desmond Thackeray dealing with the high power spark transmitter at Poldhu, used in the first Marconi transatlantic wireless transmission. Enthusiast are familiar with the circuit arrangement and apparatus employed in simple spark transmitters, but this Poldhu transmitter was something else indeed. The transmitter was a three-stage cascaded system in which the first stage, driven by a 1,500-volt generator, used a 6mm spark gap, the second a 7mm gap, and the third a 3mm gap, leading to the inductively-coupled antenna. A later two-stage design employed a 40mm gap in the final stage. Unlike multistage vacuum tube amplifiers, no new energy from an external source was introduced in the second and third stages. Such cascaded spark circuits are described by J. A. Fleming in his book, *The Principles of Electric Wave Telegraphy and Telephony,* 1910, on pages 592-595. Fleming was, of course, one the pioneers involved, with Marconi, in the design of the Poldhu transmitter.

Other articles of interest to pre-broadcast era historians are those by William J. Byron, W7DHD, *The ARC Method of Producing Continuous Waves,* and by M. D. Hall, K2LP, *Robert H. Goodard 1882-1945.* Goddard is known primarily as *The Father of American Rocketry,* but Hall describes Godard as the *original inventor-patentee of the vacuum high-frequency oscillator* based on Goddard's use of oscillatory beam deflection in a cathode ray tube device.

In the field of vacuum tubes, there are articles by Edward W. Herold, *Memories of Early Electron-Tube Development; Secret Tubes for Radar,* by Ludwell Sibley; and *The Eaton Tube Collection Revisited* by Jerry Vanicke (of *AWA Review,* Vol. 7, pp. 1-5).

Fred Chesson provides a comprehensive listing of the two, three and four letter codes used by the Navy to identify nearly 2,000 suppliers of electronic gear during the period extending from World War I to about 1980.

Carlos Alberto Fazano gives us *A Brief History of the Valve Audio Amplifier* with detailed references to such developments as push-pull, negative feedback and output-transformerless circuits.

Finally, there is a well-illustrated, 26-page article, written in 1923, on *The Evolution of Broadcasting.*

(Continued on Page 40)

Book Reviews

The AWA Review

Continued from page 39

The unpublished manuscript from which this paper was adapted was located by John Anderson in the archives of G. E. in Schenectady. The paper's author is unknown, but today we are indebted to him for his nicely-illustrated review of early broadcasting, dating from the first attempts to modulate a carrier and going on to the 50 KW stations of the early 1920s.

–Reviewed by Bill Denk, W3IGU

Publisher: The Antique Wireless Association, Inc., Bloomfield, NY. Editor: Ludwell Sibley, KB2EVN. 184 pages, 143 illustrations, six by nine inches, $12.50, postpaid. Order from AWA Editor, 44 E. Main St., Flemington, NJ 08822-1224. ■

Catalog Review

Play Things of Past Vintage Radios - Parts - Tubes - Books - Repairs

by David Johnson

Old-timers well recall the early days of radio collecting and restoration. Parts had to be improvised, or cannibalized from suitably similar old radios, or scrounged from tailgates at annual meetings. Now we have several alternative sources, the last being an impressive, new, 42-page catalog available from ARCA member, Gary Schneider. It was Gary, you will remember, who originated that most useful "Antique Radio Classified" publication, ownership of which was subsequently transferred by Gary to John Terry, its present publisher.

Gary's catalog, which carries the masthead heading *Largest Variety of Radio Items,* does indeed offer a bewildering variety of radio parts, magazines, books, service notes, tubes, speakers and miscellaneous supplies. Radios, too, are available, but not individually listed, as are also repair and restoration services. The catalog has literally pages of transformers, power, audio, interstage and output. You'll also find I.F. transformers, dials, meters, sockets, knobs, headphones, tuning condensers, honeycomb coils, variocouplers, plug-in coil forms and rheostats.

The catalog also lists back issues of such magazines as Radio, Radio News, Shortwave Craft, Radio Review, QST, Radio Broadcast, Radio Engineering, Popular Radio and others.

Thanks, Gary, you've done us all a real favor.

–Reviewed by Bill Denk, W3IGU

Catalog 0692 of Gary Schneider– $2. Store: Play Things of Past, 3552 West 105th St., Cleveland, OH 44111. Mail: Play Things of Past, 9511-23 Sunrise Blvd., Cleveland, OH 44133; (216) 582-3094. ■

MEL'S CORNER, *continued from page 33*

AN UNUSUAL PROBLEM

An unusual problem with antique radio restorers has surfaced recently. What's a radio without wires? You might readily say, "That's a wireless radio." How true.

Also, how true it is now to try and find the kind of cotton or silk covered wire as used in our early sets? Square bus-bar wiring—so attractive to the eye—has long hit the road.

In the early days of radio insulated wires were formed by the weavers of New England in their weaving mills, who spun the cotton and silk coverings providing the insulation. These we find no more, while plastic insulation has taken over.

A recent study of all the makers of wire in the surrounding area of Philly came up with no availability, even in old forgotten stocks stored away. Next came old hardware stores and their basements–to no avail.

As an afterthought going to AWA at Rochester last year I tossed in the wagon a number of spools of cotton and silk-covered wires in the event anyone was interested or in need. Interested? The very first things grabbed from the wagon.

Are we in a shortage of wire these days? Example: A fellow wanted to wind up a Tesla coil with no splices. Where does he find the wire? Another needs wire to make a loose coupler—ditto.

The gauges that are needed are: 22-24-26-28-30. If this old wire is found available, send an ad for the *Gazette* to Mel Comer. ■

THE WIRELESS TELEPHONE

About two years ago, a good friend of mine, traveling across the country and lecturing on antiques in general, found what looked at first like an old telephone. This equipment he later identified as a *T.Y.K.* Japanese wireless telephone, and donated it to my historical wireless museum.

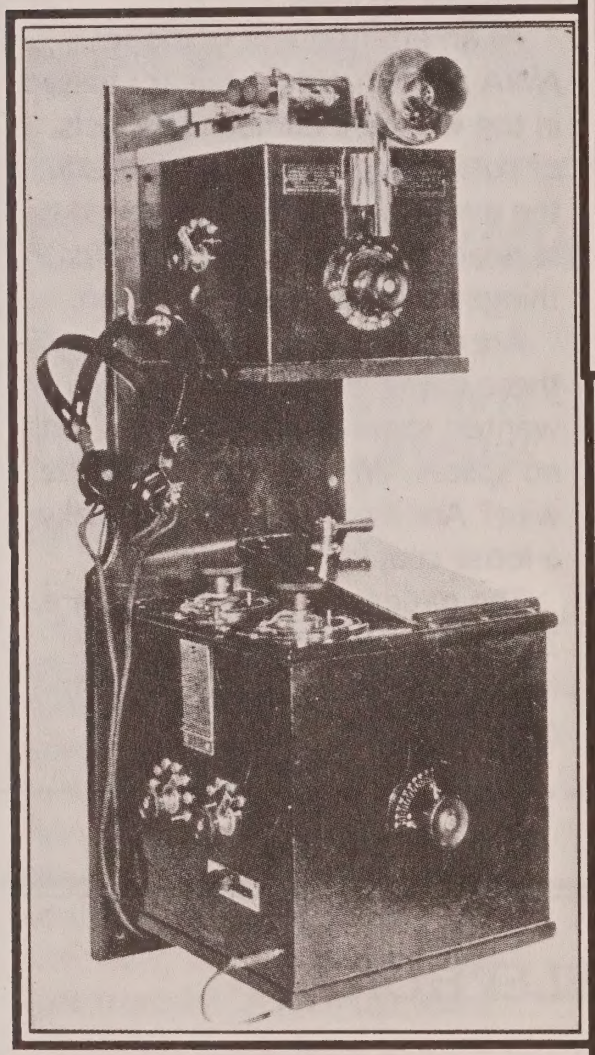
Further study and research determined that it truly was a 1910 spark transmitter and crystal receiver in one unit to be used for voice transmission without the use of vacuum tubes. Beautifully built of oak and marble and in superb condition, it now is one of the Museum's finest possessions. No other examples have ever been

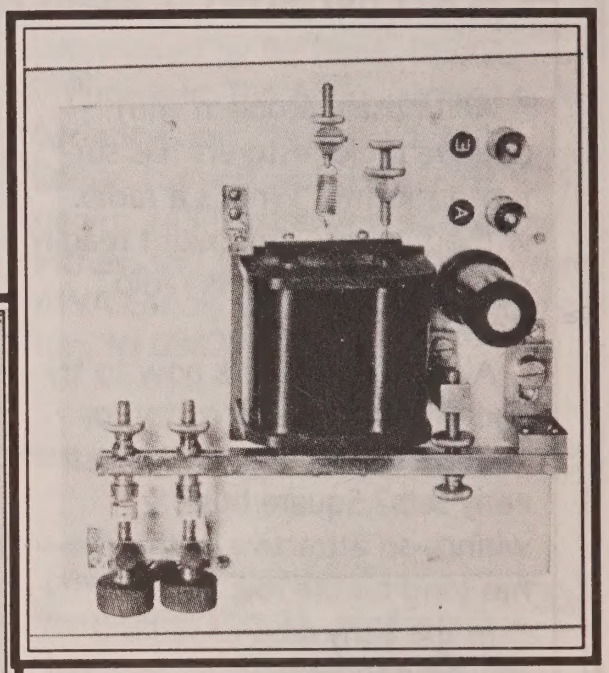
found.

The following supporting documentation are from *The Yearbook of Wireless Telegraphy and Telephony - 1918* and the 1918 book *Radio Telephony* by Alfred Goldsmith, PhD.

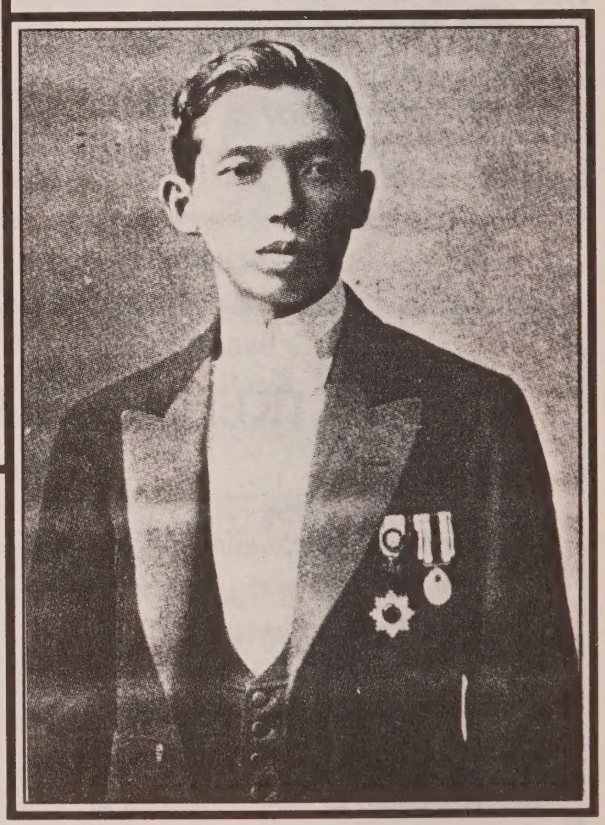
I also want to thank Alan Douglas for his help with documentation. ■

Below: Front view of T.Y.K. radiophone transmitter and receiver.





Above: Equilibrator and spark gaps of T.Y.K. radiophone transmitter.



Right: Dr. Wichi Torikata, Chief Engineer of the Wireless Section in the Japanese Department of Communications.

Continued with Dr. Wichi Torilata's article page 43.

THE WIRELESS TELEPHONE, *continued from page 42*

NOT TO BE TAKEN

THIS month we have pleasure in introducing our readers to a well-known Japanese wireless expert.

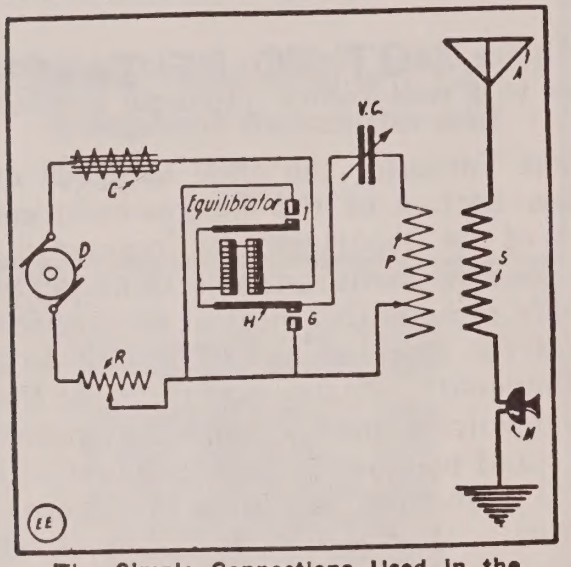
Dr. Wichi Torikata, the chief engineer of the Wireless Section of the Electro-technical Laboratory of the Department of Communications of Japan, was born in the north of Japan in 1883. He received his electric engineering education at the Engineering College of Tokyo Imperial University. After graduating at the college in 1906, he devoted himself to the investigation of radio-telegraphy and telephony as an assistant engineer to Dr. Osuke Asano, ex-Director of the Electro-technical Laboratory. He was afterwards appointed chief engineer of the Wireless Section of the Laboratory and has continued his investigation with his colleagues E. Yokoyama and M. Kitamura up to the present day. In addition to the above situation, he has recently accepted the position of the chief engineer of the Electric Material Section of the Laboratory.

Dr. Torikata has achieved success with various inventions and is the patentee of many devices, including Koseki or Mineral Detectors and the T-Y-K Oscillation Gap for use in radio-telephony. He was rewarded by the late Mikado with the fifth degree of decoration for his investigation of wireless detectors and also by the present Mikado with the fourth degree of decoration for his investigation of radio-telephony. He submitted to Tokyo Imperial University an essay entitled "Some Researches on Radio Telegraphy and Telephony," and was granted the degree of Doctor Engineer by the University in 1915. Besides these decorations he has received many prizes for his work. The first medal of the Japanese Electric Engineers' Society, which was established in 1888, was awarded to him and he has also gained the Academy Prize and Medal from the Japanese Imperial Academy.

Dr. Torikata, who is greatly interested in education, has been appointed lecturer in radio-telegraphy and telephony at the Electric Engineering College of Kyushu Imperial University. As the director of the Electric Engineering Course of Tokyo Technical School, he is also devoting himself to the development of a night school for the education of poor students.

THE JAPANESE T. Y. K. RADIOPHONE SYSTEM.

Among the early distinguished workers in radiophony we find that Messrs. Wichi



The Simple Connections Used in the Japanese "T. Y. K." Radiophone System.

Torikata, E. Yokoyama and M. Kitamura of Japan have done very notable work in this direction, and the system which they have evolved is a radio frequency spark system of unique design, which we herewith describe in detail.

The complete equipment is shown in the photograph and resembles very much an ordinary standard "wall telephone." The transmitting apparatus outside the generator is enclosed within the top cabinet, while the bottom one contains the receiving instruments and aerial control switch. The direct current rotary converter is seen standing on the floor. It runs on a 110-volt direct current source, and delivers 500 volts D. C. for the arc. Protective resistances and choke coil are used, and these are mounted on a separate base; they are seen below the instrument proper.

The transmitting equipment consists of a specially constructed arc, its electrodes consisting of iron and brass. The distance between the stationary and movable electrodes are automatically controlled by means of an electro-magnet so arranged as to adjust the arc terminals in order to keep the oscillatory condition operative. This arc is operated in the open air and the same is mounted on top of the transmitting cabinet. Its connections are made thru the control electro-magnets of the *equilibrator,* as indicated in the wiring diagram. The movable electrode G is controlled by an armature H, which is acted upon by the electro-magnet. The contact I, is broken as soon as the arc has properly started. This break of current at I, is due to the decrease of the arc resistance which permits a large steady flow of current thru the coil, consequently attracting the contact. The arc is shunted with the usual type of oscillatory circuit, P.V.C., namely, the primary of an oscillation transformer, which inductance is controlled by means of the side switch on the left of the transmitting cabinet. A variable high-tension condenser is also mounted in the same cabinet and its capacity is varied by means of a multiple-point switch, indicated on the front. An ordinary carbon microphone is linked in the ground circuit of the secondary of the oscillation transformer, as shown in the wiring diagram. This microphone is stationed on a movable bracket on the front of the cabinet.

The receiving equipment is inclosed in the lower compartment and consists of a standard loose coupled receiver, with a crystal detector. This is placed in a metal housing equipt with a metal door, seen on the left of the case. Adjusting the crystal is performed by a vertical rod protruding from the top cover. Two variable condensers are used and these are mounted on top, while the coupling of the primary and secondary is varied by turning the front knob. A change-over switch is supplied for connecting the receiving and transmitting instruments whenever desired, and the control handle for the same is seen at rear, left-hand corner of the lower cabinet. The primary switch is mounted on the left.

Excellent results were obtained with this system, and a number of sets have been installed in several Japanese land and boat stations. The efficiency in watts per mile of talking range is remarkably high. Also the design of the complete equipment is marked by distinctive simplicity.

Antique Radio Club of America, Inc.

June 30, 1992

Mr. Tom Lewis
205 East Avenue
Saratoga Springs, New York 12866

Dear Mr. Lewis:

It is my honor and privilege to inform you of your selection to join an elite few who have received the prestigious **Harry Houck Award.**

The very basic policy for the selection of this award is as follows:

"For contributions in the preservation o research of historical radio artifacts, especially in the field of super-hetrodyne receivers. The publication of an article or series of articles, the restoration or preservation of an actual exhibit and/or the evaluation of the development of super-hetrodyne principles will be used in this selection."

The selection in your case was made based on your efforts in documentation that evolved into your well recognized book *Empire of the Air.*

When the trust fund for this award was established, a monetary consideration of $100.00 was included also.

Congratulations on your work that led also to the television documentary. History has been served well by your efforts.

Very truly yours,

Lloyd E. McIntyre II
President

LEM:pm

CHAPTER NEWS, *continued from page 35*

Antique Radio Club of America

HAWAII CHAPTER

ARCA Hawaii welcomes John Baldwin as its new president this year. John has the finest radio museum in Hawaii. We plan to create a permanent space for our display of the History of Broadcasting in Hawaii, and we feel that John is the person who could make that a reality.

It has been a wonderful experience being part of such a progressive, creative group as the Antique Radio Club of America. It is my deepest intention to help keep our national organization as the flag ship of radio clubs. Mahalo to you all, and happy radio collecting.

Aloha,

Leonard F. Chung, President

Member Letters

Leave it to you and Betsy! What a surprise when she walked in here today holding that beautiful sign you had displayed at Pittsburgh meet–showing *Mel's Corner!*

I was floored at seeing that showing up here!

It will be preserved, as you mentioned, for future meets–future years–as I hope to continue as long as I can.

At 85, those of us who cherish our memories, though dim at times, retain outstanding events in our lives. Radio being mine!

I sincerely wish Harry Houck could have been with us at Pittsburgh this year. To see all the progress you have made at the helm of ARCA–carrying on the visions of Major Armstrong and his dedicated partner Harry Houck on to eternity.

I especially want to commend John Haught for the excellent way in which he handled all the arrangements and programs there at Pittsburgh.

Many thanks for everything.

–Mel Comer

******

I have been an ARCA member a relative short time now and I have been very impressed with the *Antique Radio Gazette*. I find more of interest in it than in larger, more expensive publications. My regret now is that I didn't discover the ARCA earlier.

I would like to do the next best thing and catch up on as many past issues as I can, so I am enclosing a $32 check for the last four years (before Vol. 19, No. 4 when my subscription began).

–John Cable, Lehigh Acres, FL

******

The *Channel Control* mentioned in this old ad (see below) made me curious. Was it some type of squelch circuit or an in between quieting circuit like that found on some FM radios?

Got any Idea where I might find an explanation of how this circuit works? It obviously didn't fly.

–Ken Greenberg
4858 Lee, Skokie, IL 60077

Chapter News

Ask about a chapter in your area.
*Contacts

Antique Radio Club of America
West Virginia Chapter
408 8th Avenue
St. Albans, WV 25177
*Geoff Bourne
(304) 722-4690

Hudson Valley Antique Radio & Phonograph Society-ARCA
Rt. 207, P. O. Box 1
Campbell Hall, NY 10916
*Linda or John Gramm
(914) 427-2602

Hawaii Chapter ARCA
95-2044 Waikalani Place C-401
Mililani, Hawaii 96789
*Leonard Chung

Kentucky Chapter-ARCA
1907 Lynn Lea Road
Louisville, KY 40216
*Robert Dickerson
(502) 447-6399

Ye Old SWAP SHOP

FREE ADS

Up to 12 *Gazette* lines of copy are available to ARCA members. We ask that you write your ad on a separate sheet of paper, typed or printed, and be sure to include your name and address. We reserve the right to edit all ads. ARCA is not responsible for any transactions, of course.

Owing to time constraints, we cannot extensively proofread names, addresses or numbers. If a mistake appears in your listing, please notify the *Gazette* and we will print a correction in the next available issue.

WANTED: Emerson radio (1934). Bob Kaye, 8137 Sedan Ave., West Hills, CA 91304; (818) 346-9651.

****

WANTED: Copy of manuals for LaFayette HA700, HA800B, National RCE, Precision E-200-C, Realtone Globepacer, Heathkit T-2, T-3 signal tracers. Tom Provost, 19 Ivanhoe Dr., Robbinsville, NJ 08691.

****

WANTED: Grill, knobs with brass disk, plastic cover to Wavemagnet brown case 600L Oceanics. Also, cord to broadcast Wavemagnet 8G005 Oceanic. Gregory Sheppard, 4402 Jupiter St., Rockville, MD 20853; (301) 946-6460.

****

WANTED: Service manual for Tempo VHF One/Plus 2-meter transceiver made by Henery Radio 1978. Tad Drogoski, N3J2Q, 507 Coal Valley Rd., Jefferson Boro, PA 15025-3703; (412) 466-5950.

****

WANTED: Photo of cabinet for Colonial AC-31, floor model; Riders manuals 1-7 and 15-23. Steve Kalista, 9 Maple Dr., Jim Thorpe, PA; (717) 325-4120.

****

WANTED: For Super Zenith VII (battery model) photographs, wiring diagram, etc., to help in restoration of chassis and cabinet. Ken Kelly, 315 W. Jefferson St., Apt. B, Media, PA 19063.

****

WANTED: Parts or junker set to complete a 1939 GE television, model HM226 (same as HM225). Parts needed: power supply chassis; deflection yoke assembly; audio, vert and horizontal outputs; transformers and knobs. Jeff Lendaro, 1107 Logan St., Nobileville, IN 46060; (317) 773-2969.

****

WANTED: Desperately need Federal 31 RF coil and loop antenna for Radiola 25. Will pay your price. Bill Noro, 126 Evaline St., Pittsburgh, PA 15235; (412) 371-2988.

****

WANTED: The following 21 ARCA *Gazettes* for my collection: V1N3; V2, V3, V4 and V5, all issues; V17N1, 2, 4; and V18N1. I have the following extras to trade: V9 all 4 issues; V1ON2 and 3; V19N3 and 4. Jim Clark, 1292 Starboard, Okemos, MI 48864.

(Continued on Page 49)

Swap Shop

Continued from page 48

WANTED: *Citizens Radio Callbook* magazine for 1920, 1921 and 1922. *Amateur Radio Callbook* magazine (flying horse cover) for 1925 and 1926. Bob Arrowsmith, P. O. Box 166, Annandale, VA 22003; (703) 560-7161, collect.

****

WANTED: Any information on the following: HP VTVM, model 400H; Ballantine Laboratories VTVM, model 300D; HP audio oscillator, model 200D. Willing to purchase or pay for any costs involved. Itsuo Yano, 80 Lehua St., Kahului, HI 96732.

****

WANTED: The following to produce articles and add to my collection: QST's needed: 1916 Feb., Mar., April, May; 1917 Feb., April, Sept.; 1919 July, Sept., Oct., Nov., Dec.; 1920 Jan., Feb., April, May. QST's for trade: 1916 June, July, Sept., Oct. Bill Hurni, 329 Evergreen Dr., North Wales, PA 16454; (215) 699-5787.

****

WANTED: AK tube socket assemblies (one and two tube type) for AK 10 breadboard restoration and any other miscellaneous AK parts. **HELP:** I need restorable junk chassis for Emerson model 547 and FADA model 855, can anyone help me. James A. DiRuzza, 2607 Old Troy Pike, Dayton, OH 45404; (513) 233-5004, evening.

****

WANTED: Tapes, cassettes and records: old-time radio broadcasts, especially late 20s. Ed Jones, 43 Dundonald Rd., Colwyn Bay, United Kingdom LL29-74E.

****

WANTED: *Junker* or *Basket* Case Riders, volume 1-6 (water damaged or worm eaten but serviceable). State condition and price; all replies answered. Itsuo Yano, 80 Lehua St., Kahului, HI 96732.

****

WANTED: *Antique Radio Gazette,* Vol. 5, No. 3 to complete my collection; Ozarka Hi-Boy console *The Winnetka* for our local historical museum. Bill Ross, 875 Gordon Terrace, Winnetka, IL 60093; (800) 621-0687, days.

****

WANTED: Zenith 6-volt DC radio, model 6-B-107 and remote speaker for same. Also, *Rider,* volumes 15 and up. George M. Bananno, 34 Charles St., Clifton, NJ 07013; (201) 746-5953.

****

WANTED: Jackson Bell Peter Pan radio, very good to mint condition. Cord to broadcast Wavemagnet 8G005 Oceanic. Gregory Sheppard, 4402 Jupiter St., Rockville, MD 20853; (301) 946-6460.

****

FOR SALE: Old-time radio shows. Available on tape cassettes, you select the shows you want and purchase them by the hour. Fast, friendly service. Send for our catalog listing nearly 5,000 shows arranged by category and title. Only $2 (postage & handling). Erstwhile Radio, P. O. Box 2284, Peabody, MA 01960.

****

FOR SALE: Radios, Ryders, test equipment, microphones, hundreds of parts and tubes. Linda and John Gramm, Box 1, Campbell Hall, NY 10916; (914) 427-2602, evening.

****

FOR SALE: Magic Tone 504 (1947) whiskey bottle tube radio (see pg. 195, *Radios of the Baby Boom Era,* Vol. 3), this with Lansdowne Reserve label (a Maryland distillery), working but with repaired bottle crack, $150, postpaid; Zenith G516-Y (1950) brown Bakelite-type table radio (see white version, pg. 172, *Collector's Guide to Antique Radios,* Bunis), good cabinet and working condition, $30, postpaid. Gerald Schneider, 3101 Blueford Rd., Kensington, MD 20895-2726; (301) 929-8593.

BUYING - SELLING ANTIQUES & COLLECTIBLES

Gramm-O-Phone

Antiques

JOHN & LINDA GRAMM
BOX 1
914-427-2602 CAMPBELL HALL N.Y. 10916

****

FOR SALE: Silvertone model E, battery set, 3 bad audio transformers, original finish can be saved, inside needs a good cleaning, $70; RCA Radiola 60, early electric radio, superheterodyne, works, needs refinishing, original finish discolored, wood okay, $90. Also, many other radios, books on collectable tubes. Send 2 stamps for complete photo list. Ron Boucher, P. O. Box 541 (GA), Goffstown, NH 03045; (603) 497-2988.

****

FOR SALE: Heathkit Model IM-11 vacuum tube voltmeter with manual, mint, $25; Precision model E-200-C signal generator, excellent, $25; Thompson radio neutrodyne, 1924, good cond., no tubes, $50; Majestic Super B current supply, very good, with tube, $30; Majestic A current supply, very good, $25. Bill Hurni, 329 Evergreen Dr., North Wales, PA 19454; (215) 699-5787.

****

FOR SALE: Fifty or more radios and speakers with more on the way in here. Atwater Kent, RCA, GE, Westinghouse, Philco, etc. You name it, we may have what you're looking for. Perry King, 334 W. Garret St., Somerset, PA 15501; (814) 443-1256.

****

FOR SALE: Replica labels—now available from a number of early manufacturers. To name a few: Arvin, Atwater Kent, Aeriola, Crosley, DE Forest, Doran, FADA, Magnavox, RCA Silvertone, Marti/Martian, Globe and Amrad. State your wants–include SASE for current price list and details of some 50 different manufacturers. James A. DiRuzza, 2607 Old Troy Pike, Dayton, OH 45404; (513) 233-5004 ***(see price list page 51).***

SWAP SHOP, *DiRuzza* — *continued from page 50*

James A. DiRuzza, 2607 Old Troy Pike, Dayton, OH 45404
(513) 233-5004

PRICE LIST

Manufacturer	Description	Price
Arvin	Model 444 & A29-17269, dials/photos..	$12.50/ea.
Atwater Kent	Models 19, 20, 21 & 33, name plates ..	$15.00/ea.
Atwater Kent	TA 2 STG audio & TA DET, name plates	$15.00/ea.
Aeriola SR	Dial, set of 3	$45.00
Aeriola JR	Dial, tuning	$30.00
Aeriola/Westinghouse.	Binding Post Caps	$6.00
Aeriola	Lid Paper, JR or SR	$6.00
Crosley	50, 51 & 52 cabinets	$50.00/ea.
DeForest	Radio-telephone, name plate	$20.00
DeForest	Audion & 1x1 square, name plates	$15.00
Doron Bros.	Spark coil, name plate	$12.50
FADA BC/SW	Dial 252, glass/silk/screen	$50.00
Magnavox	Speaker, name plate	$15.00
Majestic	Charlie-McCarthy, name plate	$15.00
Murdock	Loose coupler, name plate	$12.50
Pilot	14" (3" TV), control plate	$20.00
Quali-Tone	Loop/horn, name plate	$12.50
RCA	Radiola "V", crystal det./assembly	$85.00
RCA	Aeriola JR, det. parts	$25.00
Silvertone	Dial, engraved	$15.00
Silvertone	Dial, photo	$12.50
Marti/Martian	Binding posts, special	$6.00
Globe	Model 4	$15.00
Amrad	Type-E & 2575 crystal receiver	$15.00/ea.
Amrad	2634, Det., 2-stage amplifier	$15.00
Amrad	2771, VT detector	$15.00
Amrad	2776, 2-stage amplifier	$15.00
Amrad	3071 & 3108 broadcast tuners	$15.00/ea.
Amrad	3366, reflex-receiver	$15.00
Amrad	3476 & 3500-1 name plates	$15.00/ea.
Amrad	Ventilator/screen, cabinet	$20.00

****

FOR SALE: RA-20 Signal Corps power supply for 312-M receiver, replaces dynamotor, excel. cond., needs 5W4 rectifier (or 5YG3), $45; RCA service data books, 7 volumes, hardbound covering, all RCA from 1923 thru 1951, like new cond., best offer. John P. Flanigan, RD 2, Box 455B, Elverson, PA 19520; (215) 286-6327.

****

FOR SALE: Batteries, any size or shape, at prices you won't believe. Mostly new government surplus. Write for our lists for a bargain. Nicads-Lithium, etc., some with binding posts, even No. 6 dry cells @ $2 ea.; a case of 6 for $10. S & G Electronics, 618 S. 62nd St., Philadelphia, PA 19143; (215) 474-7663.

****

Restoration Services: Antique Radios again has some time available for your projects as fall and winter season approaches. Cabinets, Atwater Kent boards, etc., custom woodworking is our specialty. Our parts stock may have items you are looking for. Lawrence DiBarry, 212 N. 6th St., Chambersburg, PA 17201.

Museum (708) 742-0183 Residence (708) 741-0573

MUCHOW'S
HISTORICAL RADIO MUSEUM
DEDICATED TO WIRELESS HISTORY

DR. R. W. MUCHOW
Curator

107 CENTER STREET
ELGIN, ILLINOIS 60120

MUSEUM OPEN BY APPOINTMENT

When in Canada take time to visit The Old Tyme Radio Centre. Many floor and table model radios fully restored for sale. Restoration also available.

Radio Retailing, July 1932 - Lyric Models

Channel control is being featured in the 1932 line of the *All American Mohawk Corp., N. Tonawanda, N.Y.*

With *channel control* the radio is silent until the station is heard, then it is automatically used to its full limit. As the dial reaches the broadcast program it comes in perfectly tuned without the aid of buttons, lights, etc.

The 13-tube model is the only one with this novel type of tuning. It uses the new tubes, has two dynamic speakers and automatic volume control, and is priced at $139.50.

The 6-tube chassis offers two models: a midget, $42.50 and a lowboy, $49.95.

The 9-tube model in a semi-highboy, priced at $69.50. A standard and shortwave set with 8 tubes, in the same cabinet as the 9-tube is $84.50.

A battery-operated superheterodyne in a lowboy cabinet with 8 tubes is $89.50, less batteries.

COLLECTOR BOOKS

Antique Radio Restoration & Price Guide by David & Betty Johnson, 1000 Sets	$12.95
Guide to Old Radios, 225 pages., by David & Betty Johnson, over 350 photos	16.95
Radio Enters The Home, 128 pages., 8.5 X 11	14.95
Radio Equipment & Supplies - 168 page reprint, circa 1922, 8.5 X 11	17.95
1927 Radio Encyclopedia - Gernsback, 179 pages	11.95
*Old Time Radios! Restoration & Repair - 256 pgs. 247 illus. by Joseph Carr	16.95
Evolution of the Radio, 800 Radios - 227 pages 118 color pictures - *NEW*	22.95
Radio Art, Hard Cover - Full Color - *NEW*	29.95
*Classic Plastic Radios of the 30's and 40's by Sidel Catalin Style 200 Color Pictures	19.95
Classic TV's NEW 8.5 X 11 Color	16.95
Crystal Clear - *NEW*	39.95
The Portable Radio in American Life - Hard Cover - *NEW*	45.00
Meissner "How to Build" Instruction Manual 8.5 X 11, 168 pages	9.95
Short Wave Radio Manual, Official 1934, 260 pages	14.95
Vintage Radio Handbook, 263 pages, 1000 illustrations	11.95
Flick Of The Switch 1930-1950, 312 pages, 1000 illustrations	11.95
Most Often Needed Diagrams 1926-1938, 600 models	11.95
1921-1932 Collectors Guide, 264 pages, 9,000 models	11.95
Atwater Kent - 2 Volume Parts & Service Book Reprint, 24 pages. 8.5 X 11	7.95
ARVIN - The First Sixty Years, 263 pages	7.95
Radio For The Millions, a fun book, 192 pages PB	8.95
High Power Wireless Equipment, circa 1910-1911, 99 pages	9.95
Empire of the Air by Tom Lewis - *NEW*	25.00
Radios of the Baby Boom Era - See Page 32, Vol. 19, #3 for complete details. Each	16.95
Volumes 1 - 6, Radios of the Baby Boom Era. Admiral to Zenith, Complete Set	89.00
How To Build and Operate Short Wave Receivers, 72 pages	7.95
Official Radio Service Manual, 1930 Gernsback, 8.5 X 11, 356 pages	19.95
The Story of Nipper and His Masters Voice, 64 pages, illustrated	9.95
The Cat's Whisker, 50 Years of Wireless Design, HB (rediscovered copies)	14.95
Gernsback's Shortwave Library, 10 books, Vols. 1 - 10, each (specify volume)	2.25
Tesla's Experiments With Alternating Current, 170 pages	9.95
Collector's Guide to Antique Radios by Marty & Sue Bunis, 5,000 models, 400 color pictures 2nd Ed.	16.95
Fifty Years of Radio, March 1938 Issue of Hugo Gernsback's famous publication.	15.95
*Radio Manufacturers of the 1920's, Vol. 1, Very Large, by Alan Douglas	22.95
*Radio Manufacturers of the 1920's, Vol. 2, by Alan Douglas	26.95
*Radio Manufacturers of the 1920's, Vol. 3, - *NEW*	29.95
*RADIOS - Redux Listening in Style, Color, 120 pgs. by Philip Collins - *NEW*	17.95
*Radios – The Golden Age, 120 pages. Full Color by Phil Collins	14.95
Man of High Fidelity, Edwin H. Armstrong, PB, 272 pages	3.50
Vision by Radio by C. Francis Jenkins, 140 pages	9.95
Thomas A. Edison - A Stroke of Luck, PB, 562 pages	13.95
Nikola Tesla, Inventions, Research, Writings, 496 pages PB	16.95
Tesla Coil Secrets, PB	6.95
*The Complete Talking Machine, 8.5 X 11, 183 pages. Restoration of antique phonos	19.95
Vacuum Tubes in Wireless Communication, 5.5 X 8.5. 208 pages	12.95
222 Radio Circuit Designs, 5.5 X 8.5, 271 pages	11.95
Radio Set Socket Guide, 256 Pages - *NEW*	9.95
Legacies of Edwin Howard Armstrong, 8.5 X 11, 321 pages	15.95

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Revised 7/1/92

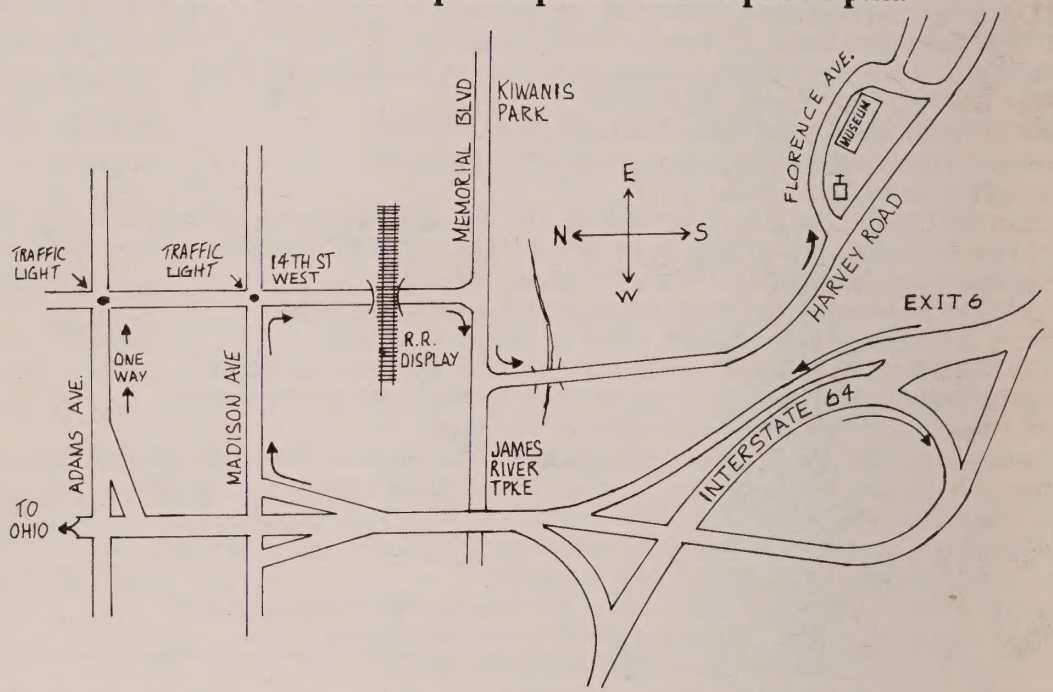
WEST VIRGINIA CHAPTER
ARCA
ANTIQUE RADIO CLUB of AMERICA

MUSEUM OF RADIO AND TECHNOLOGY INC.

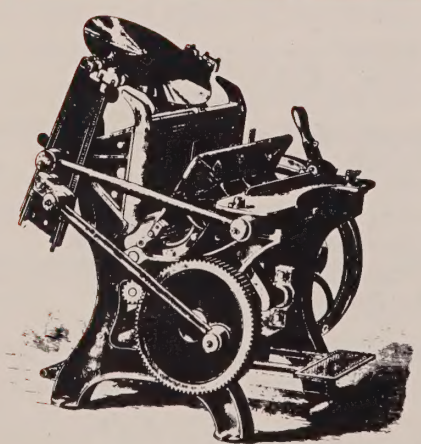
Telephone: (304) 525-8890

1640 Florence Avenue • Huntington, WV 257801

Hours: Fri.-Sat. 10 p.m.-4 p.m. • Sun. 1 p.m.-4 p.m.



Map of location and directions to
Museum of Radio and Technology Inc., Huntington, WV



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